



Environmental  
Health & Safety

## BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

Approved by:

UCR Institutional Biosafety Committee

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## PURPOSE

University of California, Riverside (UCR) is committed to providing a safe and healthy work environment for UCR employees (faculty, staff, registered volunteers, postdoctoral scholars, registered student employees, registered graduate students) and undergraduate students registered in research courses. This UCR Exposure Control Plan (ECP) provides guidance to employees on how to eliminate or minimize the risk of occupational exposure to human/non-human primate blood or blood products, cell lines, tissues, or other potentially infectious materials (OPIM). This ECP applies to non-clinical research laboratories at UCR and complies with the California Occupational Safety and Health Administration (Cal/OSHA) Bloodborne Pathogens (BBP) Standard ([8CCR§5193](#)).

This ECP shall be reviewed and updated at least annually and whenever necessary as follows:

- To reflect new or modified tasks and procedures which affect occupational exposure
- To reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens
- To document consideration and implementation of appropriate commercially available needleless systems, needle devices, and sharps with engineered sharps injury protection
- To include new or revised employee positions with occupational exposure
- To review and evaluate the exposure incidents which occurred since the previous update
- To review and respond to information indicating that the Exposure Control Plan is deficient in any area

## Exposure Determination

8 CCR 5193 (c)(3)(A) requires that the following lists be maintained as part of the ECP:

1. A list of all job classifications in which all employees in those job classifications have occupational exposure
2. A list of job classifications in which some employees have occupational exposure
3. A list of all tasks and procedures or groups of closely related task and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of subsection (c)(3) (A)2 of the Bloodborne Pathogen Standard

Personnel are placed into one of two categories regarding their potential occupational exposure. The exposure determination must be made without regard to the use of PPE.

Category 1:

The following are jobs/position descriptions/categories/titles at UC Riverside in which all employees have been determined to have potential occupational exposure to human/non-human primate blood or blood products, cell lines, tissues, or other potentially infectious materials (OPIM).

- Laboratory personnel
  - Postdoctoral fellows
  - Graduate students
  - Registered Undergraduate student employees
  - Lab Safety Officer
  - Principal Investigators
  - Lab Managers
  - Research Associates
  - Technicians
  - Undergraduate students registered in research courses
- Building Services staff who provide services to the laboratories
- Police
- Childcare
- University Athletics
- Environmental Health and Safety Staff
- Student Health Services staff

Category 2:

The following are jobs/position description/categories/titles at UC Riverside in which some employees perform tasks that may generate an occupational exposure to human/non-human primate blood or blood products, cell lines, tissues, or other potentially infectious materials (OPIM). These employees will also be covered by this Exposure Control Plan and must participate in the vaccination, training, and all other aspects of the Bloodborne Pathogens Exposure Control Plan.

- Maintenance

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- Plumber
  - Grounds
  - Housekeeping staff
  - Engineering staff
  - Transportation and Parking Services staff

Job Tasks:

The following is a list of job tasks that routinely involve a potential for mucous membrane or skin contact with potentially infectious material:

- Processing, handling, or removing waste contaminated with human/non-human primate blood or blood products, cell lines, tissues, or other potentially infectious materials (OPIM)\*
- Performing vascular access procedures
- Processing or handling of human/non-human primate blood or blood products, cell lines, tissues, or OPIM for research
- Transporting of human/non-human primate blood or blood products, cell lines, tissues, or OPIM
- Manipulating blood or OPIM from patients
- Cleaning-up blood or body fluid spills in common areas
- Responding to waste-line repairs and cleaning wastewater floods
- Repairing/servicing drains used for the disposal of blood or body fluids
- Arresting injured suspects
- First Aid response procedures

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\*Other Potentially Infectious Material (OPIM): Defined as (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 other body fluid that is visibly contaminated with blood such as saliva or vomitus, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids such as emergency response; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) Any of the following, if known or reasonably likely to contain or be infected with HIV, HBV, or HCV; (A) cell, tissue, or organ cultures from humans or experimental animals; (B) blood, organs, or other tissues from experimental animals; or (C) culture medium or other solutions.

To identify those with research-related occupational exposure, all research proposals involving biological materials are subject to review by UCR's Institutional Biosafety Committee (IBC), via a document entitled Biological Use Authorization (BUA) application. The (IBC) functions as the UCR review body responsible for approval and oversight of activities involving the use, storage and handling of biohazardous materials. As part of the BUA review and approval process, a risk assessment is conducted that specifically includes the risks for potential exposure to BBP in a laboratory. The risk assessment and BUA approval process includes a review of currently available engineering controls and the selection and use of controls, as appropriate, to mitigate the risk of exposure to BBP. Reviews are conducted at the time of the initial BUA application and during periodic renewals. This determination shall be made without regard to the use of personal protective equipment (PPE). All employees with potential exposure to BBP must meet the same regulatory requirements regardless of job classification.

## Requirements

In order to comply with Cal/OSHA Bloodborne Pathogens Standard ([8CCR§5193](#)), the following items are required for employees with a potential exposure to BBP.

- Annual Bloodborne Pathogens Training ([ucrllearning.ucr.edu](http://ucrllearning.ucr.edu))
- Hepatitis B Immunization offered free of charge to the employee and documentation of vaccination or declination
- Implementation of engineering and work practice controls to reduce the risk of BBP exposure when possible
- A Sharps Injury Log to document exposure incidents involving sharps

All UCR employees with the potential for occupational exposure to BBP are required to read, understand and have the opportunity to comment on this plan. Each supervisor shall ensure that a copy of the ECP is accessible to employees. Employees may provide comments regarding the ECP to the UCR Biosafety Officer at [ehslaboratory@ucr.edu](mailto:ehslaboratory@ucr.edu).

## Bloodborne Pathogens Training

All campus employees with the potential for occupational exposure to BBP are required to complete the online bloodborne pathogens training. The training is available via UCR Learning

website at [ucrllearning.ucr.edu](http://ucrllearning.ucr.edu). Training records are kept for a minimum of three years. Training shall be provided as follows:

- At the time of initial assignment to tasks where occupational exposure may occur
- At least annually thereafter
- Supervisors shall provide additional training when changes are made which may affect the employee's occupational exposure, such as introduction of new engineering, administrative or work practice controls, modification of tasks or procedures, or institution of new tasks or procedures.

The training must contain a comprehensive discussion of the Bloodborne Pathogens Standard which includes, but is not limited to epidemiology, symptoms, and transmission of BBP, and the ECP. Additional discussion points include procedures for use and limitations of PPE, availability of the Hepatitis B vaccination, exposure emergency procedures, post-exposure follow-up procedures, hazard communication, and an opportunity to ask questions.

## Hepatitis B Vaccination

Vaccination is an effective preventive measure against hepatitis B infection (a serious disease that can lead to liver cancer). The University of California, Riverside encourages employees who may be potentially exposed to bloodborne pathogens to be vaccinated. The vaccination shall be made available at no cost to the employee, after the employee has received the required training and within **ten (10) working days** of their initial assignment. The immunization is made available to all employees who may have occupational exposure unless the employee has previously received the complete Hepatitis B vaccination series, antibody testing has indicated that the employee is immune, the vaccine is contraindicated for medical reasons, or the employee signs the HBV declination form (Appendix B). The Hepatitis B Vaccination Request Form (Appendix A) should be completed and signed by both the employee and supervisor.

If the employee initially declines the Hepatitis B vaccination but at a later date, while still covered under the Bloodborne Pathogens Standard, decides to accept the vaccination, the Hepatitis B vaccination shall be made available at that time. Hepatitis B vaccination declination should be kept in secure storage with the Principal Investigator/Supervisor.

If a routine booster dose(s) of Hepatitis B vaccine is recommended by the U.S. Public Health Service at a future date, such booster dose(s) shall be made available.

Hepatitis B vaccine will be offered to all unvaccinated emergency responders who render assistance in any situation involving the presence of blood or other potentially infectious material (OPIM) regardless of whether an actual exposure incident occurred.

## Post-Exposure Procedures: Evaluation and Follow-Up

As part of the approved ECP, UC Riverside has a process in place to investigate, evaluate, and provide medical follow-up for all exposure incidents that are reported by employees. UC Riverside is committed to providing employees with complete medical evaluation and any necessary follow-up care in a manner that protects their privacy and ensures confidentiality of information.

All employees are responsible for immediately reporting any incident of exposure to human bloodborne pathogens to their supervisor. Examples include, but are not limited to, sharps injuries, research animal bites, contact with blood, or OPIM on skin, eyes, or mucous membranes, and oral ingestion or inhalation of blood, or OPIM.

**Sharps Injury.** After any direct exposure to blood or OPIM, through a needlestick, immediately wash the affected area with soap and water, and notify your supervisor.

**Splashes.** For splashes with blood or OPIM, remove contaminated clothing and dispose as biohazardous waste, and rinse the affected area for 15 minutes. Notify your supervisor.

**Inhalation.** If necessary, notify supervisor and seek medical attention.

**Animal Bites/Scratches.** It is important to immediately report all bite wounds and scratches to your supervisor. Wounds must be cleansed immediately in your work area. Supervisors should direct victims to seek immediate medical attention at appropriate medical facility.

### Take the following steps to ensure complete evaluation and follow-up care:

1. Immediately notify supervisor after any exposure.
2. Supervisors must provide the employee with a [UCR Incident and Investigation Report](#) **within one (1) business day** of the incident. For Reporting Guidelines, visit <http://hr.ucr.edu/supervisor/reportincident.html>.

3. The supervisor must immediately notify Environmental Health and Safety (EH&S), Workers' Compensation, and Risk Management (<http://risk.ucr.edu/>) of any exposure incident. The supervisor is also responsible for ensuring that the employee receives a confidential medical evaluation as soon as possible after the incident (at no cost to the employee) at a location listed below.

For UCR Employees:

- Medical Emergency:
  - Call 9-1-1
    - Using cell phone on main campus, call UC Police Department (951) 827-5222
  - Transport to:  
Riverside Community Hospital  
Emergency Services (24/7)  
4445 Magnolia Ave  
Riverside, CA 92501  
(951) 788-3000
- Non-emergency:
  - Workers' Compensation Medical Facility Locations:  
Parkview Occupational Medicine  
9041 Magnolia Ave, Suite 107  
Riverside, CA 92503  
Mon-Fri: 8:00AM – 9:00PM  
Sat/Sun: 9:00AM – 6:00PM  
(951) 353-1021  
951-351-7726 (after hours)
  
  - Central Occupational Medicine Providers  
4300 Central Ave  
Riverside, CA 92506  
Open 24/7  
(951) 222-2206

For Undergraduate students enrolled in research courses:

Are you a member of the Campus Student Health Plan?

**Yes**

- During normal business hours:
  - Student Health Services  
Located in the Veitch Student Center across from Parking Lot 15.  
(951) 827 – 3031
- After hours until 9:00 PM  
Riverside Medical Clinic Urgent Care Entrance B  
7117 Brockton Ave  
Riverside, CA 92506
- All other times:  
Riverside Community Hospital  
Emergency Services (24/7)  
4445 Magnolia Ave  
Riverside, CA 92501  
(951) 788-3000

**No**

- During normal business hours:
  - Student Health Services  
Located in the Veitch Student Center across from Parking Lot 15.
  - Inform them that you are not on the health plan but were injured while on campus
- All other times:  
Obtain medical treatment through your personal health insurance coverage (i.e. HMO, PPO)

Post-exposure follow-up is available to all employees at one of the above listed Workers' Compensation Medical Facility Locations. Medical records from the post-exposure follow-up are confidential and are maintained separate from personnel records.

If post-exposure prophylaxis is recommended during the medical evaluation, it will be provided to the employee at no cost. UCR will also provide any necessary counseling and evaluation of reported illnesses.

## Sharps Injury

Report and document all sharps injuries. Immediately clean the affected area with soap and water. Notify supervisor immediately of any sharps injury. Report all sharps injury by completing the [UCR Incident and Investigation Report](http://hr.ucr.edu/supervisor/reportincident.html) (<http://hr.ucr.edu/supervisor/reportincident.html>) within one (1) business day and submit to Workers' Compensation and Environmental Health and Safety (EH&S). The Biosafety Officer (BSO) from the EH&S office will review the injury and enter the information into the Sharps Injury Log Form (Appendix C) within 14 days of the exposure. The BSO will maintain the Sharps Injury Log for five years from the date the exposure incident occurred.

## Method of Compliance (8CCR§5193(d))

### Engineering Controls

Work areas are designed to minimize risks and provide safeguards to lab personnel from exposure to human/non-human primate blood or blood products, cell lines, tissues, or other potentially infectious materials (OPIM). Acceptable engineering controls include, but are not limited to:

- Biosafety Cabinets
- Sealed Centrifuge Rotors
- Safety Cups
- Fume Hoods
- Sharps Containers
- Bench Top Splash Shields
- Enclosure
- Local Ventilation
- Handwashing Sink
- Mechanical Pipetting Devices
- Capped Centrifuge Tubes
- Other

### Engineered Sharps Protection

Safety engineered sharps are used to eliminate or reduce sharps injury by utilizing one of the following devices:

- Needle-Free Injectors
- Self-Sheathing Scalpels
- Self-Sheathing Hollow Bore Needles
- Self-Sheathing Injectable Needles
- Self-Sheathing Intravenous Catheters
- Self-Sheathing Vacutainer Needles
- Plastic Vacutainers Tubes
- Plastic Coated Hematocrit Tubes
- Other

## Personal Protective Equipment (PPE):

Personal protective equipment (PPE) is used to eliminate or reduce personnel exposure to human/non-human primate blood or blood products, cell lines, tissues, or other potentially infectious materials (OPIM). Appropriate PPE include, but are not limited to:

- Laboratory Coats
- Disposable Gloves
- Disposable Gowns
- Safety Glasses
- Utility Gloves
- Goggles
- Face Shields
- Mask
- Disposable N95 Respirators (Annual Fit-Testing required)
- Powered Air Purifying Respirator (PAPR) (Annual Fit-Testing required)
- Other respirators
- Other

Supervisors are required to provide PPE to all personnel, at no cost of the employee. Appropriate PPE must be worn when handling any human/non-human primate blood or blood products, cell lines or cell tissues, or other potentially infectious materials (OPIM). Appropriate protective clothing including, but not limited to, laboratory coats, gowns, aprons, or uniforms are recommended to prevent contamination of personal clothing. Laundering services of protective clothing is provided by UCR Logistics Services (Storehouse). For more information, visit <http://matgmt.ucr.edu/storehouse/laundry.html>. Wear protective eyewear when conducting procedures that have the potential to create splashes or biological samples.

**Gloves.** Gloves must be worn to protect hands from exposure to hazardous materials. Glove selection should be based on an appropriate risk assessment. Change gloves when contaminated, glove integrity is compromised or when otherwise necessary. Do not wash or reuse disposable gloves when working with potentially infectious materials.

If a garment(s) is penetrated by blood or OPIM, the garment(s) shall be removed immediately or as soon as feasible. Remove all PPE prior to leaving the work areas. When PPE is removed, place PPE in an appropriate designated area or container for storage, washing, decontamination or disposal.

**Masks, Eye Protection, Face Shields and Respirators.** Wear masks in combination with eye protection devices, such as goggles or glasses with solid side shields or chin-length face shields

whenever splashes, spray, spatter, or droplets of blood or OPIM may be generated and eye, nose, or mouth contamination can be reasonably anticipated. Surgical masks ARE NOT air-purifying respirators – they are barriers to large particulates only.

When air purifying respirators are required, contact the Industrial Hygienist at EH&S (951) 827-2964 to ensure compliance with the Respiratory Protection Program and to schedule a fit-test. For more information on the Respiratory Protection Program, visit [http://www.ehs.ucr.edu/safety/Respiratory\\_Protection/respirator.html](http://www.ehs.ucr.edu/safety/Respiratory_Protection/respirator.html).

### Work Practice Control:

1. **Work practice controls.** Work practice controls shall be used to eliminate or minimize personnel exposure. Engineering and work practice controls must be evaluated and maintained on a regular schedule to ensure their effectiveness. These practices include the following:
  - a. Supervisor must enforce the institutional policies that control access to the laboratory.
  - b. Personnel must wash hands after working with potentially hazardous materials and before leaving the laboratory.
  - c. No eating, drinking, smoking, vaping, handling contact lenses, applying cosmetics, and storing food and equipment for human consumption must be permitted in lab areas.
  - d. Mechanical pipetting devices must be used. Mouth pipetting is prohibited.
  - e. Perform all procedures to minimize the creation of splashes and/or aerosols.
  - f. Decontamination of work surfaces after completion of work and after any spill or splash of potentially infectious materials with appropriate disinfectant.
  - g. Personnel must ensure decontamination of all infectious materials before disposal using an effective method.
  - h. Post the Emergency Safety Placard and the Biosafety Level sign that includes the international biohazard symbol at the entrance of the laboratory.
  - i. Supervisor ensures and documents that all personnel receive appropriate training regarding their duties.
2. **Contaminated Sharps.** Use of sharps with infectious agents must be minimized.
  - a. Breaking or shearing of contaminated sharps is strictly prohibited.

- b. Contaminated sharps must not be bent, recapped or removed from devices.  
Exceptions: Use of a mechanical device.
  - c. Disposable sharps cannot be reused.
  - d. Proper disposal of contaminated sharps into sharps container is immediate or as soon as possible after use.
  - e. Per [8CCR§5193\(d\)\(3\)\(D\)\(1\)](#), sharp containers for contaminated sharps are rigid, puncture resistant, leakproof on the side and bottom, portable, and labeled with the International Biohazard Symbol. Contact EH&S (951-827-5528) for sharps container.
  - f. Contaminated sharps must not be stored or processed in a manner that requires personnel to put their hands into the sharps containers.
  - g. Sharps containers shall be replaced as necessary to avoid overfilling (the fill line at the  $\frac{3}{4}$  mark is considered the point at which a container is full)
  - h. Sharps containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of sharps injury.
  - i. **Sharps Container Removal.** Submit a waste pick up request via Waste Accumulation Storage Tracking Electronic ([WASTE: https://ehs.ucop.edu/uksafety/#/splash](#)), and properly label container. All sharps container must be closed prior to pick up.
3. **Hand Washing.** All personnel must wash their hands frequently while working with biohazardous agents, immediately after removing gloves, and immediately upon any contact with any human/non-human primate blood or blood products, cell lines or cell tissues, or OPIM.
4. **Cleaning and Decontamination of the Worksite.** The worksite must be maintained in a clean and sanitary condition. All equipment, the environment, and work surfaces shall be cleaned and decontaminated after contact with blood or OPIM no later than the end of the shift.

Contaminated work surfaces shall be cleaned and decontaminated with an appropriate disinfectant immediately or as soon as feasible when:

- Surfaces become visibly contaminated
- There is a spill of blood or OPIM

- Procedures are completed

Appropriate disinfectants at UCR are 0.5% aqueous sodium hypochlorite (1:10 dilution of household bleach), or 70% ethanol solution. Use of other disinfectants requires concurrence of the Biosafety Officer.

- 5. Transportation on Campus.** Specimens of blood or OPIM containing materials must be placed in a leak-proof primary container (capped test tube, centrifuge tube, etc.) during collection, handling, and storage. If the specimens are transported outside of the lab or work site, the primary container must be placed in a closed, labeled, secondary container (bucket, beaker, cooler, etc.), which would contain the contents if the primary container if it were to leak or break. The container for storage, transport or shipping shall be labeled with the International Biohazard Symbol, and closed/sealed prior to being stored, transported or shipped.
- 6. Shipping of Samples.** Specimens and other materials to be transported between work sites shall be placed in a secondary container that is leak-proof and labeled with the international biohazard symbol. Personnel involved with shipping of biohazardous agents or potential BBPs must have documented training prior to shipping. Containers for shipping specimens must meet the Department of Transportation and United States Postal Service requirements. International shipping may require permits and authorization from the United States Department of Agriculture or Centers for Disease Control. Contact Biosafety Staff (951) 827-5528 or at [uclaboratory@ucr.edu](mailto:uclaboratory@ucr.edu) for guidance with shipping any biohazardous materials.
- 7. Servicing or Shipping Contaminated Equipment.** Equipment which may become contaminated with blood or OPIM shall be examined prior to servicing or shipping and shall be decontaminated if at all possible. Contact the Biosafety Officer at [ehslaboratory@ucr.edu](mailto:ehslaboratory@ucr.edu) to inspect the decontaminated equipment, and post the "Equipment Disposal Clearance Sign" before removal of equipment.
- 8. Prohibited Practices:**
  - a. Mouth pipetting/Suctioning of blood, OPIM, or aerosol transmissible pathogens-laboratory (ATP-L) containing materials is prohibited.

- b. Eating, drinking, smoking, chewing, gum, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas. Never put anything (pen, pencil, pipette, etc.) into your mouth.
- c. Food and drink shall not be kept in refrigerators, freezers, shelves, and cabinets or on countertops or benchtops where blood, OPIM, or ATP-L containing materials are present.
- d. Sniffing *in vitro* cultures containing ATP-L materials is prohibited.
- e. Placing your head in the biosafety cabinet is prohibited.

#### 9. Biological Waste Disposal.

- a. **Liquid Waste.** Liquid Waste (cultures, stocks, and other regulated liquid waste) will be decontaminated by a 10% final concentration household bleach solution for 15-30 minute minimum contact-time prior to disposal down the sink with copious amounts of running water.
- b. **Solid waste.** Solid waste must be placed in a red biohazard bag with the international biohazard symbol and taped closed with autoclave tape. Red biohazard bags must be placed in a leak-proof secondary container with a closeable lid. The lid must be in place when not in active use. The secondary container requires the International Biohazard Symbols on all sides and lid of the container. Autoclave all biological waste prior to disposal in regular trash. Autoclaves should be validated by conducting monthly testing using commercially available *Geobacillus stearothermophilus* test strips or vials.

**DO NOT USE ORANGE BIOHAZARD BAGS. They are illegal in California.**

#### Spill Procedures:

In any spill scenario, the priority of actions is determined by the “PEP” rule – People, Environment, and Property. The highest priority is to provide aid to injured personnel and prevent spill area access to others. Next, action should be taken to prevent environmental damage if it can be done without endangering personnel. An example would be to prevent a potent toxin from entering a sanitary drain by placing an absorbent in the flow path. Finally, action to prevent property damage should be taken if it can be done safely.

Small spills involving most biological materials used at UCR may be handled by trained laboratory personnel. If a spill is large or if laboratory personnel are uncomfortable handling the spill on their own, contact the following:

EH&S	During business hours	(951) 827 – 5228
UCPD	Emergency	9-1-1
UCPD	Non-Emergency Non-Business Hours	(951) 827 – 5222

Laboratory personnel must be prepared to clean up small spills of biological or biohazardous material. Keep basic clean up equipment on hand and ensure that all laboratory staff are trained to clean up spills.

Biological Agents Spill within a Biosafety Cabinet:

1. Keep the biosafety cabinet on.
2. Don appropriate PPE for cleaning up the spill (gloves, lab coats, safety goggles, etc.).
3. Place absorbent materials on and around the spill (e.g. paper towels).
4. Apply an effective disinfectant (e.g. 1:10 dilution of bleach) to the spill and allow it to sit for the appropriate contact time (e.g. 15-30 minutes for bleach). Avoid splashing and creation of aerosols.
5. Clean/Wipe the spill area.
6. Check the spill tray under the front grille for any residue.
7. Dispose waste into red biohazard bag.
8. Clean the area again (if using bleach as a disinfectant, do a final wash of the area with 70% alcohol or water to prevent corrosion of your biosafety cabinet).
9. Remove PPE.
10. Wash hands.
11. Report the spill to your PI/Lab Manager/Supervisor.

Biological Agents Spill Outside of a Biosafety Cabinet (BSL-2 Laboratories):

1. Notify all personnel in the area that a spill has occurred and evacuate everyone in the vicinity.
2. Close the door.
3. Remove any contaminated clothing and wash exposed areas with mild soap and water for 15 minutes.
4. Report details and/or request assistance.

EH&S	During business hours	(951) 827 – 5228
UCPD	Emergency	9-1-1
UCPD	Non-Emergency Non-Business Hours	(951) 827 – 5222

5. Wait 30 minutes to allow aerosols to settle or vent.
6. Don appropriate PPE for cleaning up the spill (e.g. gloves, lab coat, safety goggles, and respirator (if spill involves the release of ATPs-L)).
7. Place absorbent materials on and around the spill (e.g. paper towels).
8. Apply an effective disinfectant (e.g. 1:10 dilution of bleach) to the spill and allow it to sit for the appropriate contact time (e.g. 15-30 minutes for bleach). Avoid splashing and creation of aerosols.
9. Clean/Wipe the spill area.
10. Dispose waste into red biohazard bag.
11. Clean the area again.
12. Remove PPE.
13. Wash hands.
14. Report the spill to your PI/Lab Manager/Supervisor.

## Hazard Communication

UC Riverside is committed to ensuring that all employees are made aware of the current Cal/OSHA Bloodborne Pathogens Standard and the Cal/OSHA Aerosol Transmissible Disease Standard regulations, and processes are in place to comply with the regulations. UC Riverside is also committed to keeping employees informed of possible biohazards in their work areas and of procedures to prevent and control exposure to bloodborne pathogens, OPIM, or ATPs-L (e.g. the ECP). Employees are informed of the standard regulations, work-related biohazards, and the ECP through a combination of training programs, distributed written materials, and the use of applicable alert labels and signs within the work area itself.

EH&S coordinates the development of training programs to educate UC Riverside employees about Cal/OSHA regulations and the campus ECP. This training may also include information from the Injury and Illness Prevention Program (IIPP) as needed. Principal Investigators/Supervisors are responsible for developing specific-on-the-job training for safe laboratory practices and types of biohazards present within their department.

## Labels and Signs

Warning labels must be securely affixed to containers of biohazardous materials, medical and regulated wastes, refrigerators and freezers containing blood, OPIM, or ATP-L, and other containers used to store, transport, or ship blood, OPIM, or ATP-L.

The warning labels used must list the word “Biohazard” and display the international biohazard symbol. The labels are fluorescent orange/red with contrasting letters/symbols. (see below)



Biohazard warning signs must be posted at the entrance of any restricted areas where certain biohazardous materials are used. The hazard warning sign must include the biohazard symbol, name of the agent(s), special entry requirements and 24-hour contact information for two responsible individuals, one of whom should be the Principal Investigator (PI).

Detailed information regarding laboratory-specified biohazard issues are found in the Principal Investigator’s BUA.

Contaminated equipment must also be labeled with the “Biohazard” label. Additionally, the label must state which portions of the equipment remain contaminated.

## HBV, HCV and HIV Research Laboratories

Additional special practices are required by Cal/OSHA for research laboratories engaged in the culture, production, concentration, experimentation, and manipulation of HBC, HCV and HIV.

Each HBV, HCV and HIV research laboratories shall contain a facility for hand washing and an eye wash facility which is readily available within the work area. An autoclave for decontamination of regulated waste shall be available.

### Special Practices

Information regarding these special practices are conveyed to employees of these facilities during initial training, and reviewed annually during Bloodborne Pathogen training.

- Laboratory doors shall be kept closed when work involving HBV, HCV or HIV is in progress.
- Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leak-proof, labeled or color-coded container that is closed before being removed from the work area.
- Access to the work area shall be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter areas and animal rooms where work involving HBV, HCV or HIV takes place or potentially infected animals are housed.
- When OPIM or infected animals are present in the work area or containment module, a hazard warning sign incorporating the international biohazard symbol shall be posted on all access doors.
- All activities involving OPIM shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with OPIM shall be conducted on the open bench.
- Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.
- Special care shall be taken to avoid skin contact with OPIM. Gloves shall be worn when handling infected animals and when making hand contact with OPIM is unavoidable.
- Before disposal, all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

- Vacuum lines shall be protected with liquid disinfectant traps and HEPA filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.
- All spills shall be immediately contained and cleaned up by properly trained staff equipped to work with potentially concentrated infectious materials, or EH&S staff.
- A spill or accident that results in an exposure incident shall be immediately reported to supervisors, Principal Investigator, laboratory manager or other responsible person.
- Personnel shall be advised of potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

### Containment Equipment

Certified biological safety cabinets (Class I, II, or III) or other appropriate combinations of personal protection or physical containment devices, such as special protective clothing, respirators, centrifuge safety cups, sealed centrifuge rotors, and containment caging for animals, shall be used for all activities with OPIM that pose a threat of exposure to droplets, splashes, spills, or aerosols.

Biological safety cabinets shall be certified by the employer that they meet manufacturers' specification when installed, whenever they are moved, and at least **annually**.

### Training Requirements

In addition to the online UCR BBP annual training available through UCR Learning website at [ucrllearning.ucr.edu](http://ucrllearning.ucr.edu), UCR is required to ensure that:

- Employees demonstrate proficiency in standard microbiological practices and techniques and in the practices and operations specific to the facility before being allowed to work with HBV, HCV, and HIV
- Employees have prior experience in the handling of human pathogens or tissue cultures before working with HBV, HCV, and HIV
- A training program is provided to employees who have no prior experience in handling human pathogens. Initial work activities shall not include the handling of infectious agents. A progression of work activities shall be assigned as techniques are learned and proficiency is developed. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

For additional training resources, the IBC training is available and optional to UCR researchers.

## Recordkeeping

UC Riverside maintains confidential records for employees with occupational exposure to blood, OPIM, or ATP-L. The types of records include employee training records, incident and investigation reports, and sharps injury records. UC Riverside will maintain these records for the following periods of time:

1. Employee Training Records – 3 years from the date of training
2. Incident and Investigation Reports – during of employment
3. Sharps Injury Log Records – 5 years from the date of exposure incident

Records are kept confidential and not disclosed or reported without the employee's express written consent to any person within or outside the workplace, except as required by law. Records are maintained for at least the duration of employment plus 30 years.

## References

California Occupational Safety and Health Administration Bloodborne Pathogen Standard  
California Code of Regulation, Title 8, Section 5193  
<https://www.dir.ca.gov/title8/5193.html>

CDC Biosafety in Microbiological and Biomedical Laboratories (BMBL), 5<sup>th</sup> Edition.  
<http://www.cdc.gov/biosafety/publications/bmbl5/bmbl.pdf>



**Hepatitis B Vaccination Request/Declination Form** (Appendix A)

Vaccination is an effective preventive measure against hepatitis B infection (a serious disease that can lead to liver cancer). The University of California, Riverside encourages employee to be vaccinated. The HBV vaccination is available at no cost to the employee who have occupational exposure to human bloodborne pathogens. Vaccination costs are charged to the employee's department or principal investigator. The vaccination is available after employees have received information and training about the vaccination and within ten (10) working days of their initial assignment.

Employees may decline the vaccination offer by completing and signing the HBV Declination Statement, as required in 8CCR§5193. Vaccinations will be made available at any future date if employees initially decline to receive vaccination but subsequently change their minds.

Principal Investigators/Supervisors are required to maintain a record on file for all vaccinations and declinations.

Complete the following and maintain a copy for your records.

Employee Name: \_\_\_\_\_ Department: \_\_\_\_\_  
 Job Title: \_\_\_\_\_ Work Location: \_\_\_\_\_  
 Supervisor's Name: \_\_\_\_\_ Phone Number: \_\_\_\_\_

Please select and complete one of the applicable sections below:

Check this option to **ACCEPT** and request a free Hepatitis B vaccination

I have been offered and accept to receive the Hepatitis B vaccine free of charge.

Check this option to **DECLINE** and do not want or need to receive the Hepatitis B vaccination.

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 contacting my supervisor.

I have completed the Hepatitis B vaccine on \_\_\_\_\_ (date)

I have not completed the Hepatitis B vaccine and decline at this time

**Employee Acknowledgement:**

By checking this box, I acknowledge that I have read and understood that occupational exposure to blood or other potentially infectious material (OPIM) may present the risk of acquiring Hepatitis B virus (HBV) infection. I understand that I may obtain the Hepatitis B vaccination series at no cost.

\_\_\_\_\_  
Employee Signature

\_\_\_\_\_  
Date

**Supervisor Acknowledgement:**

By checking this box, I acknowledge that the above UCR employee may have occupational exposure to blood or other potentially infectious material (OPIM) that may present the risk of acquiring Hepatitis B virus (HBV) infection. I understand that this employee may obtain the Hepatitis B vaccination series at no cost to the employee.

\_\_\_\_\_  
Supervisor's or PI's Signature

\_\_\_\_\_  
Date

(Appendix B)

### Sharps Injury Log

The following information, if known or reasonably available, is documented within 14 working days of the date on which each exposure incident was reported.

1. Date and time of the exposure incident:

\_\_\_\_\_

2. Date of Exposure incident report: \_\_\_\_\_ Report written by: \_\_\_\_\_

3. Type and brand of sharp involved: \_\_\_\_\_

4. Description of exposure incident:

- Job Classification of exposed employee: \_\_\_\_\_
- Department or work area where the incident occurred: \_\_\_\_\_
- Procedure being performed by the exposed employee at the time of the incident:  
\_\_\_\_\_  
\_\_\_\_\_
- How the incident occurred: \_\_\_\_\_
- Body part(s) involved: \_\_\_\_\_
- Did the device involved have engineered sharps injury protection? Yes \_\_\_ No \_\_\_
- Was engineered sharps injury protection on the sharp involved? Yes \_\_\_ No \_\_\_

If Yes	If No
<p>A. Was the protective mechanism activated at the time of the exposure incident? Yes ___ No ___</p> <p>B. Did the injury occur before, during or after the mechanism was activated? Before ___ During ___ After ___ NA</p> <p>Comments: _____ _____</p>	<p>A. Does the injured employee believe that a protective mechanism could have prevented the injury? Yes ___ No ___</p>

- Does the exposed employee believe that any controls (e.g. engineering, administrative, or work practice) could have prevented the injury? Yes \_\_\_ No \_\_\_

Employee's opinion:

\_\_\_\_\_

- Comments on the exposure incident (e.g. additional relevant factors involved):  
\_\_\_\_\_
- Employee interview summary:  
\_\_\_\_\_
- Picture(s) of the sharp(s) involved (please attach if available).