UC RIVERSIDE
Environmental Health & Safety

BLOODBORNE PATHOGENS AND AEROSOL TRANSMISSIBLE DISEASES EXPOSURE CONTROL PLAN

Approved By:

EH&S Biosafety

Approval Date:

6/01/2020

Revision Date:

9/10/2026

DOCUMENT HISTORY

Date	Description of Changes	Type of Change (Review or Revision)
4/2020 – 6/01/2020	Revised and approved by EH&S Biosafety. Combined Bloodborne Pathogens and Aerosol Transmissible Diseases exposure control plans into 1 document	Revision
3/15/2021	Reviewed by Tran Phan – No Changes	Review
1/12/2022	Revised to add Assistant Biosafety Officer contact information by Tran Phan	Revision
3/16/2022	Revised to add Document History section by Tran Phan	Revision
3/22/2023	Revised to update Assistant Biosafety Officer contact information by Tran Phan. Updated revision and version dates.	Revision
8/13/2024	Revised to add clarification on ASTM D1922 and D1709 compliant red bags to solid waste section and disposal guidance after autoclaving.	Revision
12/03/2025	Revised to update ABSO contact information	Revision
2/24/2026	Updated Worker's Compensation reporting links and treatment locations. Checked for accessibility.	Revision
9/10/2026	Updated guidance on sharps container disposal	Revision

TABLE OF CONTENTS

DOCUMENT HISTORY 2
PURPOSE 5
DEFINITIONS 5
RESPONSIBILITIES 8
Principal Investigators (PI) or Non-Laboratory Supervisor 8
Biological Safety Officer 9
EXPOSURE DETERMINATION 9
Job Classifications 9
Source Materials of Potential BBP Exposure: 11
Potential Aerosol Transmissible Pathogens – Laboratory (ATP-L) Exposure: 12
Tasks and Procedures 12
METHODs OF COMPLIANCE 13
Engineering Controls 13
Engineered Sharps Protection 13
Personal Protective Equipment (PPE): 13
Work Practice Control 14
DECONTAMINATION 18
Spill Procedures 18
PLAN REVIEW FOR FACILITY DESIGN AND INSPECTIONS 20
HAZARD COMMUNICATION 20
Labels and Signs 20
BLOODBORNE PATHOGENS AND ATD TRAINING 21
HBV, HCV, AND HIV RESEARCH LABORATORIES 22
Special Practices 22
Containment Equipment 23
HEPATITIS B VACCINATION 23
AEROSOL TRANSMISSIBLE PATHOGENS-LABORATORY VACCINATION 23
POST-EXPOSURE PROCEDURES: EVALUATION AND FOLLOW-UP 24
SHARPS INJURY 26
RECORDKEEPING 27
REFERENCES 27
EXPOSURE CONTROL PLAN ANNUAL REVIEW 28
(Appendix A) - Aerosol Transmissible Diseases/Pathogens 29
(Appendix B) - Vaccination Declination Statement 31
(Appendix C) - Sharps Injury Log 32
(Appendix D) – ATP EXPOSURE REPORT 33

(Appendix E) - Aerosol Transmissible Pathogens – Laboratory..... 34

Principal Investigator/Non-Laboratory Supervisor:	
Phone Number:	**Email:**
Department:	
Building:	**Room(s):**

PURPOSE

University of California, Riverside (UCR) is committed to providing a safe and healthy work environment for all UCR employees. This UCR Exposure Control Plan (ECP) provides guidance to personnel on how to eliminate or minimize the risk of occupational exposure to human/non-human primate blood or blood products, cell lines, tissues, other potentially infectious materials (OPIM), or aerosol transmissible pathogens (ATPs). This Exposure Control Plan is developed to comply with the California OSHA Bloodborne Pathogens (BBP) Standard (8CCR§5193) and California OSHA Aerosol Transmissible Diseases (ATD) Standard (8CCR§5199).

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 and aerosol transmissible diseases
- 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

DEFINITIONS

Aerosol. An aerosol is a solid particle or liquid droplet suspended in air (or another gas).
Aerosol transmissible disease (ATD) or aerosol transmissible pathogen (ATP). A disease or pathogen for which droplet or airborne precautions are required, as listed in Appendix A.
Aerosol transmissible pathogen - laboratory (ATP-L). A pathogen that meets one of the following criteria:

(1) the pathogen appears on the list in Appendix E,
(2) the Biosafety in Microbiological and Biomedical Laboratories (BMBL) recommends biosafety level 3 or above for the pathogen,
(3) the biological safety officer recommends biosafety level 3 or above for the pathogen, or
(4) the pathogen is a novel or unknown pathogen.

Biosafety level 3. Compliance with the criteria for laboratory practices, safety equipment, and facility design and construction recommended by the CDC in Biosafety in Microbiological and Biomedical Laboratories for laboratories in which work is done with indigenous or exotic agents with a potential for aerosol transmission and which may cause serious or potentially lethal infection.

Biosafety in Microbiological and Biomedical Laboratories (BMBL). Biosafety in Microbiological and

Biomedical Laboratories, Fifth Edition, CDC and National Institutes for Health, 2007, which is hereby incorporated by reference for the purpose of establishing biosafety requirements in laboratories.

Blood means human blood, human blood components, and products made from human blood.

Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and 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).

CDC. United States Centers for Disease Control and Prevention.

CDPH. California Department of Public Health and its predecessor, the California Department of Health Services (CDHS).

Decontamination. 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.

Exposure Incident. A specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood, other potentially infectious materials, or aerosols containing an ATP-L that results from the performance of an employee's duties.

HBV. Hepatitis B virus.

HCV. Hepatitis C virus.

High hazard procedures. Procedures performed on a person who is a case or suspected case of an aerosol transmissible disease or on a specimen suspected of containing an ATP-L, in which the potential for being exposed to aerosol transmissible pathogens is increased due to the reasonably anticipated generation of aerosolized pathogens. Such procedures include, but are not limited to, sputum induction, bronchoscopy, aerosolized administration of pentamidine or other medications, and pulmonary function testing. High Hazard Procedures also include, but are not limited to, autopsy, clinical, surgical and laboratory procedures that may aerosolize pathogens.

HIV. Human immunodeficiency virus.

Laboratory. A facility or operation in a facility where the manipulation of specimens or microorganisms is performed for the purpose of diagnosing disease or identifying disease agents, conducting research or experimentation on microorganisms, replicating microorganisms for distribution or related support activities for these processes.

Latent TB infection (LTBI). Infection with *M. tuberculosis* in which bacteria are present in the body, but are inactive. Persons who have LTBI but who do not have TB disease are asymptomatic, do not feel sick and cannot spread TB to other persons. They typically react positively to TB tests.

Local health officer. The health officer for the local jurisdiction responsible for receiving and/or sending reports of communicable diseases

Novel or unknown ATP. A pathogen capable of causing serious human disease meeting the following criteria:

(1) There is credible evidence that the pathogen is transmissible to humans by aerosols; and

(2) The disease agent is:
   a. A newly recognized pathogen, or
   b. A newly recognized variant of a known pathogen and there is reason to believe that the variant differs significantly from the known pathogen in virulence or transmissibility, or
   c. A recognized pathogen that has been recently introduced into the human population, or
   d. A not yet identified pathogen.

NOTE: Variants of the human influenza virus that typically occur from season to season are not considered novel or unknown ATPs if they do not differ significantly in virulence or transmissibility from existing seasonal variants. Pandemic influenza strains that have not been fully characterized are novel pathogens.

Occupational Exposure. Reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.

OPIM. Other potentially infectious materials.

"Other Potentially Infectious Materials" means:

(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.

Physician or other licensed health care professional (PLHCP). An individual whose legally permitted scope or practice (i.e., license, registration, or certification) allows him or her to independently provide, or be delegated the responsibility to provide, some or all of the health care services.

Respirator. A device which has met the requirements of 42 CFR Part 84, has been designed to protect the wearer from inhalation of harmful atmospheres, and has been approved by NIOSH for the purpose for which it is used.

Sharp. Any object used or encountered in the industries covered by subsection (a) that can be reasonably anticipated to penetrate the skin or any other part of the body, and to result in an exposure incident, including, but not limited to, needle devices, scalpels, lancets, broken glass, broken capillary tubes, exposed ends of dental wires and dental knives, drills and burs.

Sharps Injury. Any injury caused by a sharp, including, but not limited to, cuts, abrasions, or needlesticks.

Sharps Injury Log. A written or electronic record satisfying the requirements of subsection (c)(2) of the BBP Standard.

Source control measures. The use of procedures, engineering controls, and other devices or materials to minimize the spread of airborne particles and droplets from an individual who has or exhibits signs or symptoms of having an ATD, such as persistent coughing.

Source Individual. Any individual, living or dead, whose blood or OPIM may be a source of occupational exposure to the employee. Examples include, but are not limited to, hospital and clinical patients; clients in institutions for the developmentally disabled; trauma victims; clients of drug and alcohol treatment facilities; residents of hospices and nursing homes; human remains; and individuals who donate or sell blood or blood components.

Universal Precautions. 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.

RESPONSIBILITIES

Principal Investigators (PI) or Non-Laboratory Supervisor

Each principal investigator or non-laboratory supervisor will:

1. Complete and annually update the Exposure Control Plan based on the nature of the research or other activities being performed in their facilities. The plan will remain on file in a central location within the laboratory/workplace along with other relevant UCR safety documents for all personnel to easily access.
2. Ensure that all faculty, staff, and students are referred to https://ehs.ucr.edu/ to register for Bloodborne Pathogens and/or Aerosol Transmissible Diseases training through the UCR Learning Center at https://ucrlearning.ucr.edu/ at the time of initial assignment where occupational exposure may take place and 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.
    a. The training must contain a comprehensive discussion of the Bloodborne Pathogens Standard and/or Aerosol Transmissible Diseases Standard, which includes, but is not limited to epidemiology, symptoms, transmission of BBP and/or ATD, 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.
3. Ensure adequate supplies of personal protective equipment (PPE) and other necessary equipment to minimize exposure to BBP, OPIM, and ATPs-L are available during normal operations and in emergency situations.
4. Ensure all eligible faculty, staff, and students are offered the Hepatitis B vaccine **within 10 working days of their initial assignment**. Eligible personnel must fill out a Hepatitis B Vaccination Request/Declination Form as part of the BBP training module. A copy of this form will be available at EH&S.
5. Ensure all eligible faculty, staff, or students are offered vaccinations **within 10 working days of their initial assignment** for Aerosol Transmissible Pathogens – Laboratory (ATPs-L) as recommended by the Biosafety Officer and Occupational Health Physician on a case-by-case basis depending on the agents used and availability of the vaccines. If there is a lack of availability for the vaccine, the employer shall document efforts made to obtain the vaccine in a timely manner and inform employees of the status of the vaccine availability, including when the vaccine is likely to become available. The employer shall check on the availability of the vaccine at least every 60 calendar days and inform employees when the vaccine becomes available. If the employee declines to accept the vaccination, he/she will complete and sign the "Vaccination Declination Statement" (**Appendix B**). The PI/Supervisor and Biosafety Officer will keep this signed statement in departmental and EH&S files, respectively.

Biological Safety Officer

The Biological Safety Officer (Biosafety Officer), as defined by the ATD Standard, is *a person who is qualified by training and/or experience to evaluate hazards associated with laboratory procedures involving ATPs-L, who is knowledgeable about the facility biosafety plan, and who is authorized by the employer to establish and implement effective control measures for laboratory biological hazards*.

Biosafety Officers with the necessary knowledge, authority, and responsibility to implement this biosafety plan:

Tran Phan
Biosafety Officer/High Containment Lab Director
Environmental Health and Safety
University of California, Riverside
(951) 827-4246 (Office)
Email: tran.phan@ucr.edu

Dr. Pranee Pairs
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Environmental Health and Safety
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EXPOSURE DETERMINATION

Job Classifications

Personnel are placed into one of two categories regarding their potential occupational exposure. The exposure determination are 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, OPIM, ATDs, ATPs, or ATPs-L.

- 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, OPIM, ATDs, ATPs, or ATPs-L. These employees will also be covered by this Exposure Control Plan and must participate in the vaccination, training, and all other aspects of the ECP.

- Maintenance
- 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 to 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) are 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 (such as emergency response) 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); 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 of personnel to BBP or ATPs-L 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 or ATPs-L. Reviews are conducted at the time of the initial BUA application, during periodic renewals, and/or annually as required. All employees with potential exposure to BBP, OPIM, or ATPs-L must meet the same regulatory requirements regardless of job classification.

For non-research-related occupational exposure, the supervisor shall identify and evaluate job classifications and locations in which employees may be exposed to blood, OPIM, and/or ATDs, ATPs, or ATPs-L. The lists below shall be updated as job classifications or work situations change.

For Non-Laboratory Supervisors:

A. **CATEGORY I:** List the employee names and job classifications of all employees in **Category 1** who may be occupationally exposed to human bloodborne pathogens (BBP), other potentially infectious materials, and/or aerosol transmissible pathogens.

Employee Name	Job Title	Exposure to: (check all that apply)
		☐BBP or OPIM ☐ATPs
		☐BBP or OPIM ☐ATPs
		☐BBP or OPIM ☐ATPs
		☐BBP or OPIM ☐ATPs
		☐BBP or OPIM ☐ATPs

B. **CATEGORY 2:** List the employee names and job classifications of employees in **Category 2** who may be occupationally exposed while performing certain tasks to human bloodborne pathogens (BBP), other potentially infectious materials, and/or aerosol transmissible pathogens.

Employee Name	Job Title	Task Procedure: (e.g. cleaning blood spills, handling biowaste)

Source Materials of Potential BBP Exposure:

Check *all materials* used in your work area that may result in employee exposure to bloodborne pathogens.

☐ Human Blood
☐ Human Blood Components
☐ Synovial Fluid
☐ Pleural Fluid

☐ Human Blood Products
☐ Unfixed Human Tissue
☐ Unfixed Human Organs
☐ Materials Infected with HIV, HBV, HCV
☐ Culture Growth Media/Solutions
☐ Experimental Animal Blood, Organs, Tissue
☐ Cells/Tissue/Organ Cultures from Humans or Experimental Animals
☐ Established Human or Non-Human Primate Cell Lines
☐ Amniotic Fluid
☐ Cerebrospinal Fluid
☐ Semen
☐ Vaginal Secretions
☐ Peritoneal Fluid
☐ Saliva in Dental Procedures
☐ Body Fluids Contaminated with Blood (e.g. Saliva or Vomitus)
☐ Pericardial Fluid
☐ All Body Fluids where it is difficult to differentiate between fluids
☐ Other:
☐ Other:
☐ Other:

Potential Aerosol Transmissible Pathogens – Laboratory (ATP-L) Exposure:

List all agents used, type of specimen used, and estimated concentration in your work area that apply to the Aerosol Transmissible Disease Standard. All incoming materials containing ATP-L are to be treated as virulent or wild-type pathogen until procedures verifying that the pathogen has been deactivated or attenuated have been conducted in the laboratory. The agents covered under that standard are listed in **Appendix E** at the end of this Exposure Control Plan.

Name of Agent (e.g. Adenovirus)	Type of Specimen Used (e.g. culture, clinical specimen)	Estimated Concentration (e.g. 1 x 10^6)

Tasks and Procedures

Select all that apply for tasks and procedures performed in the laboratory, and procedures that require the use of respiratory protection.

Bloodborne Pathogens	**ATP-L** High Hazard Procedures (potential aerosol generating procedures)*	**Respirator**
☐ Pipetting, mixing, or handling human or primate blood, fluid, or tissue	☐ Centrifugation	☐Required
☐ Centrifuging human or primate blood, fluid, or tissue	☐ Pipetting	☐Required
☐ Handling human or primate tissue including preparation, dissection and cutting	☐ Vortexing	☐Required
☐ Handling tubes or other container of human or primate blood, fluid, cultures, or tissue	☐ Mixing	☐Required
☐ Handling contaminated sharps or other contaminated waste	☐ Shaking	☐Required
☐ Cleaning spills of human or primate blood or other body fluids	☐ Blending	☐Required
	☐ Grinding	☐Required
	☐ Sonicating	☐Required
	☐ Plating	☐Required
	☐ Pouring	☐Required
	☐ Flow cytometry	☐Required

Bloodborne Pathogens	ATP-L High Hazard Procedures (potential aerosol generating procedures)*	Respirator
☐ Other procedures or tasks that would create risk of exposure to BBP's	☐ Necropsy	☐Required
☐ Phlebotomy or venipuncture of humans or primates	☐ Sample Collection	☐Required
☐ Injections into humans or animals using primate or human specimens	☐ Homogenizing	☐Required
☐ Other use of needles with human or primate specimens	☐ Flaming inoculation loops	☐Required
☐ First Responder/HAZMAT	☐ Needle/Syringe manipulations	☐Required
☐ First Aid	☐ Animal handling (with ATPs-L)	☐Required
☐ Other:	☐ Other:	☐Required
☐ Other:	☐ Other:	☐Required

*All potential aerosol generating procedures (inhalation hazard) with ATPs-L are limited to the biosafety cabinet or other primary containment device, unless there is an experimental justification not to do so (determined on a case-by-case basis through risk assessment).

METHODS OF COMPLIANCE

Universal precautions shall be observed to prevent contact with blood, OPIM, or ATPs.

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, other potentially infectious materials (OPIM), or aerosol transmissible pathogens. 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, other potentially infectious materials (OPIM), or aerosol transmissible pathogens. Appropriate PPE include, but are not limited to:

- Laboratory Coats
- Disposable Gloves
- Disposable Gowns
- Face Shields
- Mask
- Disposable N95 Respirators*

- Safety Glasses
- Utility Gloves
- Goggles
- Powered Air Purifying Respirator (PAPR)*
- Other respirators
- Other:

* Requires annual fit-testing and respirator training

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, other potentially infectious materials (OPIM), or aerosol transmissible pathogens. 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://matmgmt.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, OPIM, or ATPs, 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, OPIM, or ATPs 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) 827-5528 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.

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, leak-proof 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 ¾ 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.** Close the container lid once it reaches the fill line or ¾ full and properly label container with PI name, lab building and room number. Place sharps container in EH&S provided biohazardous waste collection bin.

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, OPIM, or ATPs.

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, OPIM, or ATPs 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, OPIM, or ATPs 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 ehsbiosafety@ucr.edu for guidance with shipping any biohazardous materials.

7. **Servicing or Shipping Contaminated Equipment.** Equipment which may become contaminated with blood, OPIM, or ATPs shall be examined prior to servicing or shipping and shall be decontaminated if at all possible. Contact the Biosafety Officer at ehsbiosafety@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 (ATPs) 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 ATPs containing materials are present.
    d. Sniffing *in vitro* cultures containing ATPs 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 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 that is dual-tested compliant (**ASTM D1922 and ASTM D1709**) with the international biohazard symbol and taped closed with autoclave tape or other means. Red biohazard bags must be placed in a leak-proof secondary container with a closeable tight-fitting 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. Red biohazard bags should be placed in EH&S provided waste collection bins located in each building. If regulatory permits require waste to be autoclaved, place waste bags into the

EH&S provided collection bins **after** autoclaving. Autoclaves should be validated by conducting monthly testing using commercially available *Geobacillus strearothermophilus* test strips or vials provided by EH&S.

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





Methods of compliance may already be defined in the Biological Use Authorization (BUA).

If methods of compliance for all agents listed above are already defined in approved BUA(s), list BUA number(s) here:

If not already defined or BUA is not applicable to your work department, complete this section.

Engineering Controls (select all that apply)	**Personal Protective Equipment** (select all that apply)	**Engineered Sharps Protection** (select all that apply)
☐ Biosafety cabinets ☐ Sealed centrifuge rotors ☐ Safety cups ☐ Fume hoods ☐ Sharps containers ☐ Bench top splash shields ☐ Enclosure ☐ Local ventilation ☐ Hand washing sink ☐ Mechanical pipetting devices ☐ Capped centrifuge tubes ☐ Other:	☐ Laboratory coats ☐ Disposable gloves ☐ Disposable gowns ☐ Utility gloves ☐ Safety glasses ☐ Goggles ☐ Disposable shoe covers ☐ Face shields ☐ Face masks ☐ Disposable N95 Respirator* ☐ PAPR* ☐ Other: ☐ Other Respirator:	☐ Needle-free injectors ☐ Self-sheathing scalpels ☐ Self-sheathing hollow bore needles ☐ Self-sheathing injectable needles ☐ Self-sheathing intravenous catheters ☐ Self-sheathing vacutainer needles ☐ Plastic vacutainer tubes ☐ Plastic coated hematocrit tubes ☐ Other:

*Requires annual fit-testing and/or respirator training

DECONTAMINATION

Potentially contaminated surfaces shall be decontaminated after any uncontrolled release or spills and at the end of the work shift.

Decontamination information may already be defined in the Biological Use Authorization (BUA).

If decontamination for all agents listed above are already defined in approved BUA(s), list BUA number(s) here:

If not already defined or BUA is not applicable to your work department, complete this section.

Area	**Frequency** (e.g. weekly, monthly, etc)	**Disinfectant** (provide concentration)	**Contact Time** (minutes)
Benches			
Biosafety Cabinet			
Centrifuges			
Incubators			
Fume Hoods			
Floors/Walls			
Other:			
Other:			

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:

Department	**Availability**	**Phone Number**
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 <u>within</u> 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.
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)).
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.

Biological Agents Spill Outside of a Biosafety Cabinet (BSL-3 Laboratories):

1. Check PPE for contamination. Change/replace PPE as necessary.
2. Post laminated spill warning sign to notify other BSL-3 users.
3. Ensure all doors are closed.
4. Notify HCLD and/or BSO, and PI of the spill and to ask for help with spill cleanup if necessary.
5. If comfortable and able, proceed with spill cleanup procedure:
    a. Place absorbent materials on and around the spill (e.g. paper towels).
    b. Starting from the outermost edge of the spill and working in towards the center of the spill, apply disinfectant as specified in your lab-specific biosafety manual onto the spill and allow sufficient contact time. Avoid splashing and creation of aerosols.
    c. After sufficient contact time, dispose waste into red biohazardous bag.
    d. Repeat steps a-c (if using bleach as a disinfectant, do a final wash of the area with 70% ethanol or water to prevent corrosion of the BSC).

e. Dispose all waste in red biohazardous waste container lined with biohazardous bag.
f. Use mop with disinfectant to decontaminate floor area around spill.
g. Doff outer gloves and place in red biohazardous waste container lined with biohazardous bag.

6. Replace outer gloves.
7. Process biohazardous waste bag for autoclaving.
8. Exit the facility according to normal procedures.
9. Communicate with HCLD and/or BSO to determine if a room decontamination is necessary.
10. HCLD and/or BSO will determine the plan of action and coordinate all activities.

PLAN REVIEW FOR FACILITY DESIGN AND INSPECTIONS

The Biosafety Officer(s) will be kept informed of any renovations of a facility where ATPs are used to ensure construction and renovation are in accordance with Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition and the California OSHA Aerosol Transmissible Diseases (ATD) Standard (8CCR§5199).

The PI is responsible for registering research involving materials that may contain bloodborne pathogens and aerosol transmissible pathogens – laboratory with the IBC prior to the start of research. Laboratory inspections will be conducted at least every three years for laboratories working with blood or OPIM and annually for laboratories working with ATPs. Laboratory inspection forms will be kept on file with EH&S.

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 ATPs, and other containers used to store, transport, or ship blood, OPIM, or ATPs.

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.

BLOODBORNE PATHOGENS AND ATD TRAINING

All campus employees with the potential for occupational exposure to BBP and/or ATD are required to complete the online bloodborne pathogens training and/or ATD training. The trainings are available via UCR Learning website at ucrlearning.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 (not to exceed 12 months from the previous training)
- 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.

In addition to the online UCR BBP annual training available through UCR Learning website, 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.

The training must contain a comprehensive discussion of the Bloodborne Pathogens and Aerosol Transmissible Diseases Standards which includes, but is not limited to epidemiology, symptoms, and transmission of BBP and ATP, 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.

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 HBV, 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 BBP, ATP, 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 BBP, ATP, and OPIM shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with BBP, ATP, and 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 BBP and OPIM. Gloves shall be worn when handling infected animals and when making hand contact with BBP and 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 BBP, ATPs, and OPIM that pose a threat of exposure to droplets, splashes, spills, or aerosols.

Biological safety cabinets shall be certified per NSF 49 standard when installed, whenever they are moved, and at least **annually**.

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 during their BBP training.

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.

AEROSOL TRANSMISSIBLE PATHOGENS-LABORATORY VACCINATION

List all recommended vaccinations for work with ATP-L's used in this laboratory. Employees in laboratory operations outside of health care settings, and within the scope of subsection (f) of the standard, shall be offered appropriate vaccines in accordance with the current edition of Biosafety in Microbiological and Biomedical Laboratories (BMBL) for the specific laboratory.

Check the boxes that apply indicating current compliance with the vaccination requirements.

BBP	ATD	
☐	☐	All employees in this work area have been informed of the vaccination program **within 10 working days of their initial assignment start date**. They have been offered the vaccine at no charge and have been instructed on how to receive the vaccination.
☐	☐	For all current employees who have received the vaccine, medical confirmation is on file with the designated health care provider or their personal physician.
☐	☐	For all current employees who have declined the vaccine, the HBV Vaccination Declination Form is on file with the PI/Non-Lab Supervisor.
☐	☐	If the recommended vaccine is not available, documentation of efforts to obtain the vaccine is on file. Availability is checked at least every 60 calendar days. Employees are informed of vaccine availability status.

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 or aerosol transmissible diseases to their supervisor. Examples include, but are not limited to, sharps injuries, research animal bites, contact with blood, or OPIM or ATPs on skin, eyes, or mucous membranes, and oral ingestion or inhalation of blood, OPIM, or ATPs.

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

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

Inhalation. Notify supervisor and seek medical attention.

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

If an exposure to ATPs occurs, the PI/Non-Laboratory Supervisor will immediately report the incident according to step 3 below, review the exposure incident with the Biosafety Division within EH&S to determine and document which employees had significant exposures, the names and employee identifiers for such individuals, and, if applicable, the basis of determination that an employee did not have a significant exposure or because a PHLCP determined that the employee is immune. The PI/Non-Laboratory Supervisor will notify all employees who had significant exposures of the date, time and nature of the incident within 96 hours of becoming aware of the potential exposure (or sooner if the disease has time restraints for administration of vaccine or prophylaxis. Employees will be provided post-exposure medical evaluation at no cost to the employee as soon as feasible.

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

1. Immediately notify supervisor after any exposure.

2. Report the incident to Environmental Health, Safety and Risk Management (https://workerscomp.ucr.edu/employee-injury). There are three options to report: Electronic Report, Accident Report, or Worker's Compensation Hotline.

3. The supervisor can notify Environmental Health, Safety and Risk Management (https://workerscomp.ucr.edu/manager-resources) of any exposure incident for an employee. 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 (conditions that are **LIFE THREATENING** or **REQUIRES IMMEDIATE MEDICAL ATTENTION BEYOND FIRST AID**):
  - 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:

Kaiser on the Job

Riverside Office Medical Office Building 1 4th Floor, Room 408 10800 Magnolia Avenue, Riverside, CA 92505 (951) 353-4322 *Hours: 8:30AM to 5:00PM (Monday – Friday)*
Moreno Valley Office Heacock Medical Offices Module 1B, 1st Floor 12815 Heacock Street, Moreno Valley, CA 92553 (951) 353-4322 *Hours: 8:30AM to 5:00PM (Monday – Friday)*
***After Hours Care* Kaiser Urgent Care Park Sierra Medical Offices** 1st Floor 10800 Magnolia Avenue, Riverside, CA 92505 (951) 353-4322 *Hours: 8:30AM to 10:00PM (7 days a week)*

For Undergraduate students enrolled in research courses:

Are you a member of the Campus Student Health Plan?

YES

- During normal business hours:

  Student Health and Counseling Center

Mon-Wed: 8:15AM – 7:00PM
Thu: 9:00AM – 7:00PM; Fri: 8:00AM – 5:00PM
388 W. Linden Street
Riverside, CA 92521-0308
Next to Parking Lot 21
(951) 827 – 3031

- All other times:

  Riverside Community Hospital
  Emergency Services (24/7)
  4445 Magnolia Ave
  Riverside, CA 92501
  (951) 788-3000

  Parkview Community Hospital
  3865 Jackson Ave
  Riverside, CA 92503
  (951) 688-2211

NO

- During normal business hours:

  Student Health and Counseling Center
  388 W. Linden Street
  Riverside, CA 92521-0308
  Next to Parking Lot 21
  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) 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.

RECORDKEEPING

UC Riverside maintains confidential records for employees with occupational exposure to blood, OPIM, or ATPs. 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 – duration of employment
3. Sharps Injury Log Records – 5 years from the date of exposure incident

Medical 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. Medical 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

California Occupational Safety and Health Administration Aerosol Transmissible Diseases Standard
California Code of Regulation, Title 8, Section 5199
https://www.dir.ca.gov/title8/5199.html

CDC Biosafety in Microbiological and Biomedical Laboratories (BMBL), 6th Edition.
https://www.cdc.gov/labs/pdf/SF__19_308133-A_BMBL6_00-BOOK-WEB-final-3.pdf

EXPOSURE CONTROL PLAN ANNUAL REVIEW

Principal Investigator/Non-Laboratory Supervisor Certification:

I hereby certify that I have reviewed the exposure control plan and will ensure that all personnel review and understand how to eliminate or minimize the risk of occupational exposure to human/non-human primate blood or blood products, cell lines, tissues, other potentially infectious materials (OPIM), or aerosol transmissible pathogens (ATPs).

☐ No additions/changes to the ECP since the last review dated _____.
☐ Additions/changes have been made to the ECP since the last review dated _____.
Copies of the additions/changes are enclosed with this signature page.

Print name:	Signature:	Date:

Personnel Certification:

We, the undersigned, have reviewed the Exposure Control Plan, have been trained in the appropriate methods and practices to eliminate or minimize the risk of occupational exposure to human/non-human primate blood or blood products, cell lines, tissues, other potentially infectious materials (OPIM), or aerosol transmissible pathogens (ATPs). We agree and understand that we must review and document compliance with these practices and procedures on an annual basis.

Personnel Name	Personnel Signature	Job/Position Title	Date

Principal Investigators/Non-Laboratory Supervisors and their staff must update (if necessary) and sign this Exposure Control Plan **annually**. A copy of any changes to the Plan and this signed page must be sent to the Biosafety Officer and uploaded in their BUA, if applicable.

(APPENDIX A) - AEROSOL TRANSMISSIBLE DISEASES/PATHOGENS

Diseases/Pathogens Requiring Airborne Infection Isolation

Aerosolizable spore-containing powder or other substance that is capable of causing serious human disease, e.g.
    Anthrax (*Bacillus anthraci*)
Avian influenza/Avian influenza A viruses (strains capable of causing serious disease in humans)
Varicella disease (chickenpox, shingles)/Varicella zoster and Herpes zoster viruses, disseminated disease in any patient. Localized disease in immunocompromised patient until disseminated infection ruled out
Measles (rubeola)/Measles virus
Monkeypox/Monkeypox virus
Novel or unknown pathogens
Severe acute respiratory syndrome (SARS)
Smallpox (variola)/Varioloa virus
Tuberculosis (TB)/*Mycobacterium tuberculosis* -- Extrapulmonary, draining lesion; Pulmonary or laryngeal disease, confirmed; Pulmonary or laryngeal disease, suspected
Any other disease for which public health guidelines recommend airborne infection isolation

Diseases/Pathogens Requiring Droplet Precautions

Diphtheria pharyngeal
Epiglottitis, due to *Haemophilus influenzae* type b
Haemophilus influenzae Serotype b (Hib) disease/*Haemophilus influenzae* serotype b -- Infants and children
Influenza, human (typical seasonal variations)/influenza viruses
Meningitis
    Haemophilus influenzae, type b known or suspected
    Neisseria meningitidis (meningococcal) known or suspected
Meningococcal disease sepsis, pneumonia (see also meningitis)
Mumps (infectious parotitis)/Mumps virus
Mycoplasmal pneumonia
Parvovirus B19 infection (erythema infectiosum)
Pertussis (whooping cough)
Pharyngitis in infants and young children/Adenovirus, Orthomyxoviridae, Epstein-Barr virus, Herpes simplex virus,
Pneumonia
    Adenovirus
    Haemophilus influenzae Serotype b, infants and children
    Meningococcal
    Mycoplasma, primary atypical
    Streptococcus Group A
Pneumonic plague/*Yersinia pestis*
Rubella virus infection (German measles)/Rubella virus
Severe acute respiratory syndrome (SARS)
Streptococcal disease (group A streptococcus)
    Skin, wound or burn, Major
    Pharyngitis in infants and young children
    Pneumonia
    Scarlet fever in infants and young children
    Serious invasive disease

Viral hemorrhagic fevers due to Lassa, Ebola, Marburg, Crimean-Congo fever viruses (airborne infection isolation and respirator use may be required for aerosol-generating procedures)

Any other disease for which public health guidelines recommend droplet precautions

(APPENDIX B) - VACCINATION DECLINATION STATEMENT

In accordance with the Cal/OSHA Aerosol Transmissible Diseases (8CCR§5199), UC Riverside will ensure the recommended vaccination is offered to all employees who have occupational exposure to ATP-Ls. UCR will provide the vaccination series at **no cost** to the employee. All employees who qualify for vaccination have the option to accept or decline.

Complete the section below, maintain a copy for your records and send the original to your Supervisor or Principal Investigator. This will document declination of the recommended vaccination.

Name: _____

Department: _____

Job Title: _____

Work Location: _____

Phone Number: _____

VACCINE DECLINATION STATEMENT (MANDATORY)

I understand that due to my occupational exposure to aerosol transmissible diseases, I may be at risk of acquiring infection with _____ (name of disease or pathogen). I have been given the opportunity to be vaccinated against this disease or pathogen at no charge to me. However, I decline this vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring _____, a serious disease. If in the future I continue to have occupational exposure to aerosol transmissible diseases and want to be vaccinated, I can receive the vaccination at no charge to me.

_____ _____

Employee Signature Date

(APPENDIX C) - 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
A. Was the protective mechanism activated at the time of the exposure incident? Yes____ No____ B. Did the injury occur before, during or after the mechanism was activated? ____Before_____During____ After____ NA Comments: _____ _____	A. Does the injured employee believe that a protective mechanism could have prevented the injury? Yes____ No____

   - 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).

(APPENDIX D) – ATP EXPOSURE REPORT

The following information is documented when each exposure incident is reported.

1. Date and time of the exposure incident: _____
2. Date of Exposure incident report: _____
3. Report written by (Name and title): _____
4. Names of exposed: _____
5. Description of exposure incident:
   - Job Classification of exposed employee: _____
   - Location 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: _____
   - Name of pathogen(s) involved: _____
   - Was exposed employee wearing respiratory protection? ____ Yes ____ No
     - What kind? _____
   - Was pathogen being worked with in the biosafety cabinet when exposure occurred?

     Yes____ No _____

If Yes	If No
A. Was biosafety cabinet certification current? Yes____ No____ B. Were there other factors involved that led to exposure? _____ Sharps _____ Animals _____ Pressurized lines/equipment _____ Other:	A. Why was the pathogen not worked with in the biosafety cabinet? _____ _____ _____ _____

   - Comments on the exposure incident (e.g. methods to mitigate/prevent exposures in the future):

     _____
   - Local health officer and/or PLHCP consulted: _____
   - Date of evaluation: _____
   - Date and contact information of others who notified or was notified of the exposure:

     _____

(APPENDIX E) - AEROSOL TRANSMISSIBLE PATHOGENS – LABORATORY

This appendix contains a list of agents that, when reasonably anticipated to be present, require a laboratory to comply with Section 5199 for laboratory operations by performing a risk assessment and establishing a biosafety plan that includes appropriate control measures as identified in the standard.

Adenovirus (in clinical specimens and in cultures or other materials derived from clinical specimens)

Arboviruses, unless identified individually elsewhere in this list (large quantities or high concentrations* of arboviruses for which CDC recommends BSL-2, e.g., dengue virus; potentially infectious clinical materials, infected tissue cultures, animals, or arthropods involving arboviruses for which CDC recommends BSL-3 or higher, e.g., Japanese encephalitis, West Nile virus, Yellow Fever)

Arenaviruses (large quantities or high concentrations of arenaviruses for which CDC recommends BSL-2, e.g., Pichinde virus; potentially infectious clinical materials, infected tissue cultures, animals, or arthropods involving arenaviruses for which CDC recommends BSL-3 or higher, e.g., Flexal virus)

Bacillus anthracis (activities with high potential for aerosol production**, large quantities or high concentrations, screening environmental samples from *b. anthracis* -contaminated locations)

Blastomyces dermatitidis (sporulating mold-form cultures, processing environmental materials known or likely to contain infectious conidia)

Bordetella pertussis (aerosol generation, or large quantities or high concentrations)

Brucella abortus, B. canis, B. "maris", B. melitensis, B. suis (cultures, experimental animal studies, products of conception containing or believed to contain pathogenic *Brucella* spp.)

Burkholderia mallei, B. pseudomallei (potential for aerosol or droplet exposure, handling infected animals, large quantities or high concentrations)

Cercopithecine herpesvirus (see Herpesvirus simiae)

Chlamydia pneumoniae (activities with high potential for droplet or aerosol production, large quantities or high concentrations)

Chlamydia psittaci (activities with high potential for droplet or aerosol production, large quantities or high concentrations, non-avian strains, infected caged birds, necropsy of infected birds and diagnostic examination of tissues or cultures known to contain or be potentially infected with *C. psittaci* strains of avian origin)

Chlamydia trachomatis (activities with high potential for droplet or aerosol production, large quantities or high concentrations, cultures of lymphogranuloma venereum (LGV) serovars, specimens known or likely to contain *C. trachomatis*)

Clostridium botulinum (activities with high potential for aerosol or droplet production, large quantities or high concentrations)

Coccidioides immitis, C. posadasii (sporulating cultures, processing environmental materials known or likely to contain infectious arthroconidia, experimental animal studies involving exposure by the intranasal or pulmonary route)

Corynebacterium diphtheriae

Coxiella burnetti (inoculation, incubation, and harvesting of embryonated eggs or cell cultures; experimental animal studies, animal studies with infected arthropods, necropsy of infected animals, handling infected tissues)

Crimean-Congo haemorrhagic fever virus

Cytomegalovirus, human (viral production, purification, or concentration)

Eastern equine encephalomyelitis virus (EEEV) (clinical materials, infectious cultures, infected animals or arthropods)

Ebola virus

Epstein-Barr virus (viral production, purification, or concentration)
***Escherichia coli,* shiga toxin-producing only** (aerosol generation or high splash potential)
Flexal virus
Francisella tularensis (suspect cultures—including preparatory work for automated identification systems, experimental animal studies, necropsy of infected animals, high concentrations of reduced-virulence strains)
Guanarito virus
***Haemophilus influenzae*, type b**
Hantaviruses (serum or tissue from potentially infected rodents, potentially infected tissues, large quantities or high concentrations, cell cultures, experimental rodent studies)
Helicobacter pylori (homogenizing or vortexing gastric specimens)
Hemorrhagic fever -- specimens from cases thought to be due to dengue or yellow fever viruses or which originate from areas in which communicable hemorrhagic fever are reasonably anticipated to be present
Hendra virus
Hepatitis B, C, and D viruses (activities with high potential for droplet or aerosol generation, large quantities or high concentrations of infectious materials)
Herpes simplex virus 1 and 2
Herpesvirus simiae (B-virus) (consider for any material suspected to contain virus, mandatory for any material known to contain virus, propagation for diagnosis, cultures)
Histoplasma capsulatum (sporulating mold-form cultures, propagating environmental materials known or likely to contain infectious conidia)
Human herpesviruses 6A, 6B, 7, and 8 (viral production, purification, or concentration)
Influenza virus, non-contemporary human (H2N2) strains, 1918 influenza strain, highly pathogenic avian influenza (HPAI) (large animals infected with 1918 strain and animals infected with HPAI strains in ABSL-3 facilities, loose-housed animals infected with HPAI strains in BSL-3-Ag facilities)
Influenza virus, H5N1 - human, avian
Junin virus
Kyasanur forest disease virus
Lassa fever virus
***Legionella pneumophila*, other legionella-like agents** (aerosol generation, large quantities or high concentrations)
Lymphocytic choriomeningitis virus (LCMV) (field isolates and clinical materials from human cases, activities with high potential for aerosol generation, large quantities or high concentrations, strains lethal to nonhuman primates, infected transplantable tumors, infected hamsters)
Machupo virus
Marburg virus
Measles virus
Monkeypox virus (experimentally or naturally infected animals)
Mumps virus
Mycobacterium tuberculosis complex (M. africanum, M. bovis, M. caprae, M. microti, M. pinnipedii, M. tuberculosis (aerosol-generating activities with clinical specimens, cultures, experimental animal studies with infected nonhuman primates)
Mycobacteria* spp. other than those in the *M. tuberculosis* complex and *M. leprae (aerosol generation)
Mycoplasma pneumoniae
Neisseria gonorrhoeae (large quantities or high concentrations, consider for aerosol or droplet generation)
Neisseria meningitidis (activities with high potential for droplet or aerosol production, large quantities or high concentrations)

Nipah virus
Omsk hemorrhagic fever virus
Parvovirus B19
Prions (bovine spongiform encephalopathy prions, only when supported by a risk assessment)
Rabies virus, and related lyssaviruses (activities with high potential for droplet or aerosol production, large quantities or high concentrations)
Retroviruses, including Human and Simian Immunodeficiency viruses (HIV and SIV) (activities with high potential for aerosol or droplet production, large quantities or high concentrations)
***Rickettsia prowazekii, Orientia (Rickettsia) tsutsuagmushi*, *R. typhi (R. mooseri),* Spotted Fever Group agents (*R. akari, R. australis, R. conorii, R. japonicum, R. rickettsii,* and *R. siberica*)** (known or potentially infectious materials; inoculation, incubation, and harvesting of embryonated eggs or cell cultures; experimental animal studies with infected arthropods)
Rift valley fever virus (RVFV)
Rubella virus
Sabia virus
Salmonella* spp. other than *S. typhi (aerosol generation or high splash potential)
Salmonella typhi (activities with significant potential for aerosol generation, large quantities)
SARS coronavirus (untreated specimens, cell cultures, experimental animal studies)
***Shigella* spp.** (aerosol generation or high splash potential)
***Streptococcus* spp., group A**
Tick-borne encephalitis viruses (Central European tick-borne encephalitis, Far Eastern tick-borne encephalitis, Russian spring and summer encephalitis)
Vaccinia virus
Varicella zoster virus
Variola major virus (Smallpox virus)
Variola minor virus (Alastrim)
Venezuelan equine encephalitis virus (VEEV) (clinical materials, infectious cultures, infected animals or arthropods)
West Nile virus (WNV) (dissection of field-collected dead birds, cultures, experimental animal and vector studies)
Western equine encephalitis virus (WEEV) (clinical materials, infectious cultures, infected animals or arthropods)
Yersinia pestis (antibiotic resistant strains, activities with high potential for droplet or aerosol production, large quantities or high concentrations, infected arthropods, potentially infected animals)

* 'Large quantities or high concentrations' refers to volumes or concentrations considerably in excess of those typically used for identification and typing activities. A risk assessment must be performed to determine if the quantity or concentration to be used carries an increased risk, and would therefore require aerosol control.

** 'activities with high potential for aerosol generation' include centrifugation