Bloodborne Pathogens and Aerosol Transmissible Diseases

Exposure Control Plan
University of California, Irvine
Environmental Health and Safety

Principal Investigator/Non Laboratory Supervisor: ______

Building: ______ Room(s): ______
Department: ______ Date: ______

Program Scope
The University of California, Irvine (UCI) Exposure Control Plan (ECP) describes how to eliminate or minimize the exposure of all UCI personnel to human/non human primate blood or human/non human primate blood products that might contain Bloodborne Pathogens (BBP) and/or airborne pathogens. This Exposure Control Plan demonstrates compliance with the California OSHA Bloodborne Pathogens Standard (8CCR Sec. 5193) http://www.dir.ca.gov/title8/5193.html and the California OSHA Aerosol Transmissible Diseases Standard (8CCR Sec. 5199) http://www.dir.ca.gov/title8/5199.html.

Responsibilities:
Each principal investigator (PI) or non laboratory supervisor must:

1. **Complete and annually update** the Exposure Control Plan based on the nature of the clinical, 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 UCI safety documents for all personnel to access.

2. Assure that these faculty, staff, and students are referred to http://www.ehs.uci.edu/ to register for Bloodborne Pathogens and/or Aerosol Transmissible Diseases training through the UC learning center http://www.uclc.uci.edu/ at the time of initial assignment where occupational exposure may take place and annually thereafter in addition to lab specific training.

3. Ensure adequate supplies of personal protective equipment and other necessary equipment to minimize exposure to BBP, OPIM and ATPs (Aerosol Transmissible Pathogens) during normal operations and emergency situations.

4. All eligible faculty, staff, or students will be offered the Hepatitis B vaccine during the Bloodborne Pathogens training session. During Bloodborne Pathogens training, each employee will fill out an online “Hepatitis B Vaccination Acceptance/Declination Form”. The acceptance/declination of Hepatitis B vaccine is sent to the employee’s supervisor. This signed statement will be kept in the PI/Supervisor departmental files and EH&S files.

5. All eligible faculty, staff, or students will be offered vaccinations 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 the employee declines to accept the vaccination, he/she will complete and sign the “Vaccination Declination Statement” at the end of this Exposure Control Plan (Appendix 2). This signed statement will be kept in the PI/Supervisor departmental files and EH&S files.

6. For those that accept the offer, please contact the Occupational Health Coordinator by sending an e-mail to ochlth@uci.edu or phone 949-824-3757 and request a referral. For those who are affiliated through the University of California, Irvine Healthcare and the University of California, Irvine College of Health Sciences please contact that office directly at (714) 456-8300.

7. The employee may choose to accept the Hepatitis B vaccination offer or applicable ATP-L vaccine offer(s) at any time.

Campus Biosafety Officer:
The 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.

Biological Safety Officer with the necessary knowledge, authority and responsibility for implementing the Biosafety Plan:

Anju Subba, MS, MS EMAP
Biosafety Officer
Environmental Health and Safety
University of California, Irvine
(949) 824-4365 office

Version 04.2019
Exposure Determination – Source materials of potential BBP exposure:
Check all materials used in your work area that may result in employee exposure to bloodborne pathogens. Additional information about handling NHP-derived materials can be found in Appendix 4.

- Human blood
- Human blood components
- Human blood products
- Unfixed human tissue
- Unfixed human organs
- Established human cell lines
- Established non-human primate cell lines
- Non-human primate fluids/blood/blood components/blood products
- Non-human primate tissues/organs
- Materials infected with HIV, HBV, HCV
- Culture growth media/solutions
- Experimental animal blood, organs, or tissue
- Cells/tissue/organ cultures from humans or experimental animals
- Amniotic fluid
- Cerebrospinal fluid
- Synovial fluid
- Pleural 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:

Exposure Determination – Agents handled in the laboratory covered under the ATD Standard:
List all agents used, type of specimen used, and estimated concentration in your work area that apply to the Aerosol Transmissible Disease Standard. The agents covered under the standard are listed in Appendix 3 at the end of this Exposure Control Plan. All incoming materials containing ATPs-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.

<table>
<thead>
<tr>
<th>Name of Agent (e.g. Adenovirus 5)</th>
<th>Type of Specimen used (e.g. culture, clinical specimen)</th>
<th>Estimated Concentration (e.g. 1 x 10^8)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

Check the boxes for tasks and procedures performed in the laboratory. For ATPs-L check the boxes for procedures that require the use of respiratory protection.

<table>
<thead>
<tr>
<th>Bloodborne Pathogens</th>
<th>ATPs-L (potential aerosol generating procedures)</th>
<th>Respirator:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Phlebotomy or venipuncture of humans or primates</td>
<td>Centrifugation</td>
<td>Required</td>
</tr>
<tr>
<td>Injections into humans or animals using primate or human specimens</td>
<td>Pipetting</td>
<td>Required</td>
</tr>
<tr>
<td>Other use of needles with human or primate specimens</td>
<td>Vortexing</td>
<td>Required</td>
</tr>
<tr>
<td>Pipetting, mixing, or handling human or primate blood, fluid, or tissue</td>
<td>Mixing</td>
<td>Required</td>
</tr>
<tr>
<td>Other procedures or tasks that would create risk of exposure to BBP’s</td>
<td>Shaking</td>
<td>Required</td>
</tr>
<tr>
<td>First responder/HAZMAT</td>
<td>Blending</td>
<td>Required</td>
</tr>
<tr>
<td>Centrifuging human blood, fluid, or tissue</td>
<td>Grinding</td>
<td>Required</td>
</tr>
<tr>
<td>Centrifuging non-human primate blood/fluid/tissue</td>
<td>Sonicating</td>
<td>Required</td>
</tr>
<tr>
<td>Handling human tissue including preparation, dissection and cutting</td>
<td>Plating</td>
<td>Required</td>
</tr>
<tr>
<td>Handling non-human primate tissue including preparation, dissection and cutting</td>
<td>Pouring</td>
<td>Required</td>
</tr>
<tr>
<td>Handling tubes or other container of human or primate blood, fluid, cultures, or tissue</td>
<td>Flow cytometry</td>
<td>Required</td>
</tr>
<tr>
<td>Handling contaminated sharps or other contaminated waste</td>
<td>Necropsy</td>
<td>Required</td>
</tr>
<tr>
<td>Cleaning spills of human or primate blood or other body fluids</td>
<td>Sample collection</td>
<td>Required</td>
</tr>
<tr>
<td>First aid</td>
<td>Homogenizing</td>
<td>Required</td>
</tr>
<tr>
<td>Other:</td>
<td>Flaming inoculation loops</td>
<td>Required</td>
</tr>
<tr>
<td>Other:</td>
<td>Needle/syringe manipulations</td>
<td>Required</td>
</tr>
<tr>
<td>Other:</td>
<td>Animal handling (with ATPs-L)</td>
<td>Required</td>
</tr>
<tr>
<td>Other:</td>
<td>Other:</td>
<td>Required</td>
</tr>
</tbody>
</table>
All potential aerosol generating procedures (inhalation hazard) with ATPs-L are limited to the biosafety cabinet, unless there is an experimental justification not to do so (determined on a case by case basis).

Method of Compliance:

<table>
<thead>
<tr>
<th>Engineering Controls</th>
<th>Personal Protective Equipment</th>
<th>Engineered sharps protection</th>
</tr>
</thead>
<tbody>
<tr>
<td>☐ Biosafety cabinets</td>
<td>☐ Laboratory coats</td>
<td>☐ Needle-free injectors</td>
</tr>
<tr>
<td>☐ Sealed centrifuge rotors</td>
<td>☐ Disposable gowns</td>
<td>☐ Self-sheathing scalpels</td>
</tr>
<tr>
<td>☐ Safety cups</td>
<td>☐ Disposable gloves</td>
<td>☐ Self-sheathing hollow bore needles</td>
</tr>
<tr>
<td>☐ Fume hoods</td>
<td>☐ Utility gloves</td>
<td>☐ Self-sheathing injectable needles</td>
</tr>
<tr>
<td>☐ Sharps containers</td>
<td>☐ Safety gloves</td>
<td>☐ Self-sheathing intravenous catheters</td>
</tr>
<tr>
<td>☐ Bench top splash shields</td>
<td>☐ Goggles</td>
<td>☐ Self-sheathing vacutainer needles</td>
</tr>
<tr>
<td>☐ Enclosure</td>
<td>☐ Face shields</td>
<td>Plastic vacutainer tubes</td>
</tr>
<tr>
<td>☐ Local ventilation</td>
<td>☐ Mask</td>
<td>Plastic coated hematocrit tubes</td>
</tr>
<tr>
<td>☐ Hand washing sink</td>
<td>☐ Disposable N95 respirator*</td>
<td>☐ Other: please describe</td>
</tr>
<tr>
<td>☐ Mechanical pipetting devices</td>
<td>☐ PAPR*</td>
<td></td>
</tr>
<tr>
<td>☐ Capped centrifuge tubes</td>
<td>☐ Other respirator* (specify):</td>
<td></td>
</tr>
<tr>
<td>☐ Other: please describe</td>
<td>☐ Other: please describe</td>
<td></td>
</tr>
</tbody>
</table>

*Requires annual fit-testing and respirator training. Questions? Contact the Occupational Health Coordinator at (949) 824-6200 or occhlth@uci.edu

Potentially contaminated surfaces shall be decontaminated at the end of the work shift. Identify your laboratory cleaning schedule:

<table>
<thead>
<tr>
<th>Area</th>
<th>Frequency</th>
<th>Disinfectant (provide concentration)</th>
<th>Contact Time (minutes)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Benches</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Biosafety cabinets</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Centrifuges</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Incubators</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Floor/walls</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other:</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Other:</td>
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<td></td>
</tr>
</tbody>
</table>

Exposure Determination:

All job classifications and locations in which employees, staff and students may be expected to incur occupational exposure to blood or other potentially infectious materials and/or ATPs-L, based on the nature of the job or collateral duties, regardless of frequency, shall be identified and evaluated by the PI or lab manager and/or supervisor. This list shall be updated as job classifications or work situations change. Exposure determination shall be made without regard to the use of personal protective equipment (employees are considered to be exposed even if they wear personal protective equipment).
A. Category I

Job classifications in which employees, staff and students are exposed to blood or other potentially infectious materials and/or ATPs-L on a regular basis, and in which such exposures are considered normal course of work, fall into Category I. The PI or lab manager and/or supervisor shall maintain a list of these types of jobs and the locations in which the work will be performed (see table below).

<table>
<thead>
<tr>
<th>Job Classification:</th>
<th>Job Classification:</th>
<th>Job Classification:</th>
<th>Exposure to:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Lab assistant</td>
<td>Example: Postdoctoral/ Research Associate</td>
<td>Example: Dental Hygienist</td>
<td>Check all that apply</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BBP or OPIM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ATP-L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BBP or OPIM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ATP-L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BBP or OPIM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ATP-L</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>BBP or OPIM</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>ATP-L</td>
</tr>
</tbody>
</table>

NOTE: Part-time, temporary, contract and per diem employees are covered by the bloodborne pathogens and aerosol transmissible diseases standards. The ECP should describe how the standard will be met for these employees.

B. Category II

Job classifications in which employees, staff and students may have an occasional exposure to blood or other potentially infectious materials and/or ATPs-L, and in which such exposures occur only during certain tasks or procedures that are collateral to the normal job duties, fall into Category II. The PI or lab manager and/or supervisor shall maintain a list of these types of jobs and the locations in which the work may be performed (see table below).

<table>
<thead>
<tr>
<th>Job Classification:</th>
<th>Task Procedure:</th>
<th>Job Classification:</th>
<th>Task Procedure:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Example: Lab assistant II</td>
<td>Example: Testing human blood, working with mammalian cells</td>
<td>Example: Child Care Associate</td>
<td>Example: Contact with children, bites and scratches</td>
</tr>
<tr>
<td>Example: Clinic Clerk</td>
<td>Example: Handling human blood samples in containers that may be contaminated</td>
<td>Example: Hazardous Waste Tech</td>
<td>Example: Cleaning blood spills or OPIM, handling biological waste</td>
</tr>
</tbody>
</table>

These lists shall be updated as job classifications or work situations change.
HIV, HBV, and HCV Research Laboratories [required by 8CCR§5193(e)(1-3, 5)]

The Cal/OSHA Bloodborne Pathogen Standard defines HIV, HBV, and HCV laboratories as those engaged in the culture, production, concentration, experimentation, and manipulation of HIV, HBV, or HCV. UCI conducts HIV research at BSL-3. Hepatitis B or Hepatitis C research is not currently performed on campus; however, in the event that Hepatitis B or C is initiated, this section will be updated.

HBV Vaccination Program Medical Surveillance Program [required by 8CCR§5193(f)(1-2) and 8CCR§5199(h) (1-2, 5)]

Principal Investigators/ Non Laboratory Supervisors are responsible for ensuring that all employees with potential occupational exposure to human bloodborne pathogens are offered the HBV vaccine and employees with potential occupational exposure to ATPs-L are offered the applicable vaccinations (at no charge to them). The HBV vaccine is an effective preventive measure against Hepatitis B infection. Vaccinations shall be made available to all employees with occupational exposures unless the employee has already received the vaccine or it is determined the employee has immunity, or the vaccine is contraindicated for medical reasons. Supervisors (or their designate) must inform all new employees of the vaccination program as specified in the Bloodborne Pathogen Program and ATD Program Policy within 10 working days of their employment start date. If an employee declines to be vaccinated, the Supervisor must ensure that the employee signs the Vaccination Declination Statement (Appendix 2) and that a copy is on file in the department records. EH&S will also maintain a copy of the declination statement. If the vaccine is unavailable, supervisors (or their designate) must document efforts made to obtain vaccine and inform employees of vaccine availability status. Vaccine availability must be checked at least every 60 calendar days and employees will be notified when the vaccine is available.

Check the boxes that apply indicating your compliance with this requirement and record the requested tracking information.

ATD  BBP
☐  ☐ All employees in this work area have been informed of the vaccination program within 10 working days of their employment 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 UCI designated health care provider or their personal physician.
☐  ☐ For all current employees who have declined the vaccine, a HBV Vaccination Declination Statement is on file with Environmental Health & Safety.
☐  ☐ 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.

Recommended Vaccinations for ATPs-L:
List all recommended vaccinations for work with ATPs-L used in the laboratory.

<table>
<thead>
<tr>
<th>Vaccine</th>
<th>Vaccine</th>
<th>Vaccine</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
Good Work Practice:

1. Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Engineering and work practice controls must be evaluated and maintained on a regular schedule to ensure their effectiveness. Use of sharps with infectious agents must be minimized.

2. Any experimental procedures that could possibly result in the generation of aerosols or other inhalation hazards shall be performed in a manner that will minimize airborne pathogen transmission. For such procedures involving ATPs-L, sealed vessels, rotors or vials shall be used at all times.

3. Universal precautions is defined as an approach to infection control where all human/non human primate blood and other human/non human primate body fluids, tissues, and cells are treated as if they were infectious for human immunodeficiency virus, hepatitis B virus, hepatitis C virus, and other bloodborne pathogens.

4. Personal Protective Equipment (PPE): Where occupational exposure remains after the institution of engineering and work practice controls; the supervisor shall provide, at no cost to the employee, appropriate personal protective equipment. Personal protective equipment will be considered “appropriate” only if it does not permit blood, Other Potentially Infectious Material (OPIM) or ATPs-L to pass through to or reach the employee’s work clothes, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used.

5. Hand washing: Personnel wash their hands frequently while working with biohazardous agents, immediately after removing gloves, and immediately upon any contact with blood, OPIM or ATPs-L containing material.

6. Prohibited Practices:
   1. Eating, drinking, smoking, chewing gum, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure. Never put anything (pen, pencil, pipette, etc.) into your mouth.
   2. Food and drink shall not be kept in refrigerators, freezers, shelves, and cabinets or on countertops or benchtops where blood, OPIM or ATPs-L containing materials are present.
   3. Mouth pipetting/suctioning of blood, OPIM or ATPs-L containing materials is prohibited.
   4. Sniffing in vitro cultures containing ATPs-L is prohibited.
   5. Placing your head in the biosafety cabinet is prohibited.
   6. Used needles and other sharps are not sheared, bent, broken, recapped, or resheathed by hand. Used needles are not removed from disposable syringes. Contaminated sharps are placed immediately in a puncture-resistant and labeled sharps container.

7. Signs and Labels: All work areas and containers are labeled in accordance with the provisions of the Bloodborne Pathogens Standard and/or Aerosol Transmissible Diseases Standard. Labels used in this laboratory for human blood, other potentially infectious materials, and ATPs-L containing materials must include the international biohazard symbol and the term "biohazard," and must be fluorescent orange or orange-red in color.

8. Transportation on Campus: Specimens of blood, other potentially infectious materials, or ATPs-L containing materials will be placed in a primary container that prevents leakage (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 labeled, secondary container (bucket, beaker, cooler, etc.) which would contain the contents if the primary container if it were to leak or break.

9. 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 universal 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 or authorization from the United States Department of Agriculture or Centers for Disease Control. Contact the Biosafety Office at (949) 824-6200 for additional information on training for shipping samples or specimens.

10. Sharps containers for contaminated sharps:
   1. All sharps containers for contaminated sharps shall be rigid, puncture resistant, leakproof, portable, and correctly labeled.
   2. Containers for sharps shall be easily accessible to personnel and located as close as is feasible to where sharps are anticipated to be found.
   3. Contaminated sharps are to be placed into sharps containers immediately.
   4. Contents of the sharps container shall not be accessed unless properly reprocessed or decontaminated. Sharps containers shall not be opened, emptied, or cleaned manually or in any other manner that would expose employees to the risk of sharps injury.
   5. Containers shall be replaced as necessary to prevent overfilling.

11. Biological Waste Disposal: All liquid waste (cultures, stocks, and other regulated liquid waste) will be decontaminated by a 10% household bleach solution (final concentration) for 15-30 minute minimum contact time prior to disposal down the sink with copious amounts of running water. If a different EPA approved disinfectant other than bleach is used, EH&S will be contacted to request a biomedical waste pickup. Non-sharp medical waste must be placed in a red biohazard bag with the International biohazard symbol. Medical waste in red biohazard bags must be placed in a leak proof secondary container with a closeable lid. To request an online biomedical waste pickup, visit: http://www.ehs.uci.edu/programs/enviro/

Spill Procedures:

Never clean up a spill unless you have been trained and feel comfortable cleaning the spill.

**Spill of Biological Agents within a Biosafety Cabinet:**

1. Keep the biosafety cabinet running.
2. Don appropriate PPE for cleaning up the spill including: gloves, lab coat, safety goggles.
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. Wipe up/clean the spill area.
6. Dispose of waste as biohazard waste.
7. 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).
8. Remove PPE.
9. Wash hands.
10. Report the spill to your PI/Non Laboratory Supervisor.

**Spill of Biological Agents Outside of a Biosafety Cabinet (BSL2 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 from EH&S (949-824-6200) during business hours and UCI Police Emergency (9-1-1) after hours.
5. Wait 30 minutes to allow aerosols to settle or vent.
6. Don appropriate PPE for cleaning up the spill including: 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. Wipe up/clean the spill area.

10. Dispose of waste as biohazard waste.

11. Clean the area again.

12. Remove PPE.

13. Wash hands.

14. Report the spill to your PI/Non Laboratory Supervisor.

**Reporting and documentation of sharps injuries:** All sharps related injuries shall be reported immediately by completing a University of California, Irvine “Employers Report of Occupational Injury or Illness”. This form is located at [www.hr.uci.edu, link Workers Compensation](http://www.hr.uci.edu). Workers Compensation will notify EH&S who will initiate a review of the injury and enter the information into a Sharps Injury Log (within 14 days of the injury). The Sharps Injury Log is maintained for five years by the EH&S Manager for Occupational Health Programs.

**Medical Surveillance Program:** University of California, Irvine Environmental Health and Safety (EH&S) has made arrangements for all appropriate required medical services related to BBP’s and ATPs-L.

1a. **Hepatitis B Vaccination:** A safe and effective vaccine is available for protection from Hepatitis B. The University of California, Irvine encourages employees to be vaccinated. The employee may decline the vaccination. Accepting vaccination is not a condition of employment. This vaccine is available at no cost to the employee. Post-vaccination serological testing to assure that antibodies to hepatitis B have developed is also provided at no cost following completion of the vaccination series. The PI/Non Laboratory Supervisor will assure that all personnel with potential for occupational exposure to BBP are offered the Hepatitis B (HBV) vaccination within ten working days of contact with human or primate specimens. **Students should be referred to the UCI Student Health Services within the ten-day period.**

1b. **Additional Recommended Vaccination(s):** A safe and effective vaccine(s) is available. The University of California, Irvine encourages employees to be vaccinated. The employee may decline the vaccination. Accepting vaccination is not a condition of employment. This vaccine is available at no cost to the employee. The PI/Non Laboratory Supervisor will assure that all personnel with potential for occupational exposure to ATPs-L with available vaccinations are offered the vaccination within ten working days of initial assignment. **Students should be referred to the UCI Student Health Services within the ten-day period.**

To obtain the vaccine(s), please contact the Occupational Health Coordinator by sending an e-mail to occhlth@uci.edu or by phone 949-824-3757 and request a referral.

For those who are affiliated through the University of California, Irvine Healthcare or the University of California, Irvine College of Health Sciences or work at the Medical Center; contact the UCIMC Occupational Health office directly at (714) 456-8300, Pav III - Bldg 29 - Rt 33.

If you decide not to be vaccinated but later change your mind, you may still receive the vaccination(s) at no cost. Each employee who declines the HBV vaccination series and/or additional recommended vaccinations is required to sign a declination form that will be filed in the PI/Supervisor Departmental records and EH&S records.

2. **Post-Exposure Evaluation and Follow-up:** Any exposure (e.g. spill, needlestick, ingestion, inhalation of ATPs-L) resulting in direct, unprotected contact with human or primate blood, fluids, or tissues and/or ATPs-L gives you the right to prompt medical evaluation and treatment with a qualified physician familiar with evaluations and
treatment protocols as recommended by the Centers for Disease Control and Prevention. These services will be provided to you at no cost.

After any direct exposure to BBP or ATPs-L through a needlestick, immediately wash the affected area with soap and water and NOTIFY YOUR SUPERVISOR. For splashes with BBP or ATPs-L, remove contaminated clothing and dispose as biohazard waste, and rinse the affected area for 15 minutes. If necessary, seek medical attention. If ATPs-L inhalation has occurred, immediately seek medical attention.

If an exposure to ATPs-L occurs, the PI/Non Laboratory Supervisor will immediately report the incident to Workers Compensation (www.hr.uci.edu, link Workers Compensation), review the exposure incident with the Biosafety Division within EH&S to determine and document which employees had significant exposures, names and employee identifiers for such individuals and, if applicable, the basis for determination that an employee did not have a significant exposure or because a PLHCP 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, like varicella or meningococcal disease). Employees will be provided post-exposure medical evaluation at no cost to the employee as soon as feasible.

Questions? Contact the Occupational Health Coordinator at (949) 824-6200 or occhlth@uci.edu

For the latest update please go to: http://www.ehs.uci.edu/MedEmergPoster.pdf

□ Medical Emergency:

CALL 911 if the condition is LIFE THREATENING or REQUIRES IMMEDIATE MEDICAL ATTENTION BEYOND FIRST AID.

Cell phone: 911 or 949-824-5223 (UCI Police Department)
Infectious Agent Exposure: Call 714-456-7890 request the Infectious Disease Fellow On-Call
If poisoning is suspected: Contact the Poison Control Center at 1-800-222-1222

□ Students (non-UCI employees):

Campus: Go to the Student Health Center (East Peltason & Pereira) or call 949-824-5304 or 949-824-5301. Hours: Mon-Fri 8:00-5:00 pm
After hours: Go to the nearest urgent care center or emergency room. Contact Student Health Center for follow-up care as soon as possible.

For further information, contact the UCI Student Health Center Health Insurance Program (GSHIP) or (USHIP) 949-824-5301 or, see the GSHIP or USHIP web site available at the Student Health Services website http://www.shs.uci.edu/

Students with private health insurance instead of GSHIP or USHIP will be charged for services rendered at the Student Health Center and provided a receipt to obtain reimbursement.

□ Employees, all student-employees, and volunteers with work-related injuries:

Employees or their supervisor must contact UCI Worker’s Compensation Desk at 949-824-9152 during regular working hours to obtain medical authorization within 24 hours of any injury.

ALL WORK RELATED INJURIES MUST BE REPORTED via the On-line Incident Form available at the Human Resources website at www.hr.uci.edu, and link to Workers Compensation or call (949) 824-9152
Newport Urgent Care: 949-752-6300. 1000 Bristol Street North, Suite 1-B, Newport Beach (Bristol & Jamboree) Hours: Mon-Fri 8am-9pm; Sat & Sun 9am-6pm; call for after-hours physician.

Occupational Health Clinic at UCIMC: 714-456-8300. On campus, Pavilion III, Building 29. Hours: Mon-Fri 7:30am-5pm; Sat & Sun Closed; After hours go to UCIMC emergency Room.

UCIMC: 714-456-6011. 101 City Drive South, Orange. Hours: 24hrs/7days

Occupational Services Long Beach Memorial Hospital: 562-933-0085. 2801 Atlantic Ave., (Memorial West Rehab Entrance). Hours: Mon-Fri 7am-5pm; Sat 9am-5pm; Call for after-hours physician services.

ProCare Work Injury Center: 949-752-1111. 17232 Red Hill Ave., Irvine, CA.

Exposure to animal bites and scratches: It is important to immediately report all bite wounds and scratches to your supervisor. Wounds must be cleansed immediately in your work area. Your supervisor will give instructions to you for the proper cleaning of wounds. After you have cleansed the wound, go immediately to either Student Health Services or UCIMC Occupational Health Clinic, or as directed by UCI Workers Compensation. If it is after hours, follow the directions listed above. Medical information will not be discussed or revealed to supervisors, personnel representatives, or other health care professionals who do not need the information.

Recordkeeping: The PI/Non Laboratory Supervisor must maintain all training records as discussed above for at least three years and provide recordkeeping and documentation that they advised staff of the offer of the Hepatitis B vaccination and other recommended vaccinations. The medical provider maintains all medical records related to the provision of clinical services for thirty years. To access these records, call the provider directly or the Occupational Health Coordinator at (949) 824-3757.

For those who are affiliated through the University of California, Irvine Healthcare or the University of California, Irvine College of Health Sciences or work at the Medical Center and have obtained your vaccines through the UCI Medical Center, contact the UCIMC Occupational Health office directly at (714) 456-8300, Pav III - Bldg 29 – Rt 33.

Plan Review for Facility Design and Inspections:

The Biosafety Officer will be kept informed of any renovations of a facility where ATPs-L are used to ensure construction and renovation are in accordance with Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition and 8CCR Sec. 5199.

The PI/Non Laboratory Supervisor is responsible for registering research involving materials that may contain bloodborne pathogens and airborne pathogens with the Institutional Biosafety Committee (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-L. Laboratory inspection forms will be kept on file with EH&S.
Communication of Hazards to UCI Employees [required by 8CCR§5193(g)]

Check all the boxes that apply to the safety/ECP training that your employees have received:

☐ During the past 12 months, all new employees with occupational exposure to BBP or ATPs-L in this work area have received training on the Standard and the campus ECP. The training has been documented and is on file in department records and via the UC learning center http://www.uclc.uci.edu/

☐ During the past 12 months, all new employees have received on-the-job training for safe work practices and the types of biohazards in their work environment. The training has been documented and is on file in department records (for a minimum of 3 years).

☐ All employees with longer employment service have received an annual training update on the Standard and the campus ECP. The training has been documented and is on file in department records.

Check all the boxes that apply to the use of warning labels and signs in your work area.

☐ The Biohazard symbol and orange-red warning labels that display the word “Biohazard” are used to identify containers of regulated waste, refrigerators/freezers containing blood or OPIM (and other biohazard material), and other containers used to store, transport, or ship blood/OPIM (and other biohazard material).

☐ Contaminated equipment is also labeled with the biohazard warning label. The label documents the portions of the equipment that remain contaminated.

Verification Statement

I have read and understood the requirements of the UC Irvine Bloodborne Pathogen and ATD Program and the Exposure Control Plan. The information I have provided in this form is accurate and verifiable during audits of this work area.

____________________ _________________________________ ___________________
Signature of Principal Investigator or Non Laboratory Supervisor Date

(This plan must be reviewed and signed annually)
APPENDIX 1. Personnel Signatures

This plan must be reviewed and signed **annually**.

I have reviewed the Exposure Control Plan and agree to comply with the plan.

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APPENDIX 2. Vaccination Declination Statement

Please make copies and keep declination statement from all personnel.

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 3. 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/exposure control 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, 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)

**Coccidoides immitis**, C. posadasi (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 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)
*Macho*pu*vo* 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*) *tsutsugamushi*, *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
APPENDIX 4. Non-Human Primate (NHP) Materials

Like human-derived materials, NHP-derived materials, including but not limited to fluids and blood products, organs, tissues, primary cells, and established cell lines, should always be considered potentially infectious and handled using BSL-2 practices and containment.

**Macacine herpesvirus 1** [Herpes B virus, B virus, Cercopithecine herpesvirus 1 (CHV-1), *Herpesvirus simiae*]

*Macacine herpesvirus 1* is a zoonotic virus that commonly infects macaque species (*Macaca* spp.) and typically results in latent and asymptomatic infection of the animals, but could lead to death in humans. Humans become infected with the virus through macaque bites and scratches or through mucosal exposure with bodily fluids from infected monkeys. In the laboratory setting, workers handling blood, fluids (saliva, conjunctival fluid, cerebrospinal fluid, urogenital secretions), tissues, and cells, including cell lines from infected macaques* typically become exposed through percutaneous injuries (e.g. needlestick injury, cuts from broken contaminated sharps). Although cases of infection in humans are rare, the mortality rate among those infected could reach 70-80% without antiviral treatment. Infection typically presents as flu-like symptoms, accompanied by vesicular lesions at or near the site of exposure. Severe infections may cause acute ascending encephalomyelitis and death.

*All macaques regardless of their origin should be considered potentially infected. Animals with no detectable antibody are not necessarily B virus-free. (from Biosafety in Microbiological and Biomedical Laboratories, 5th ed.)*

Macacine herpesvirus 1 is a Risk Group 4 agent. The Biosafety Manual states that **NO Risk Group 4 Agents** may be used or stored at UCI.

Resources


Biosafety in Microbiological and Biomedical Laboratories, 5th ed. (Centers for Disease Control): [https://www.cdc.gov/labs/BMBL.html](https://www.cdc.gov/labs/BMBL.html)

B Virus (Centers for Disease Control): [https://www.cdc.gov/herpesbvirus/index.html](https://www.cdc.gov/herpesbvirus/index.html)

Cohen, JI *et al*: Recommendations for Prevention and Therapy for Exposure to B Virus [http://cid.oxfordjournals.org/content/35/10/1191.full](http://cid.oxfordjournals.org/content/35/10/1191.full)