Applicability
This Exposure Control Plan applies to Non-clinical Research Laboratories at the University of California, Irvine. Clinical Laboratories must comply with the UCIMC Bloodborne Pathogens Exposure Control Plan.

Requirements
In order to comply with the CAL/OSHA Bloodborne Pathogens Standard, all employees with a potential exposure to Bloodborne Pathogens must have the following:

- Annual Bloodborne Pathogens Training
- Hepatitis B Immunization offered free of charge to the employee
- Personnel Protective Equipment limiting the risk of exposure available free of charge to the employee
- All employees are required to read, understand and have the opportunity to comment on the Bloodborne Pathogens Exposure Control Plan
- Each supervisor shall ensure that a copy of the Exposure Control Plan is accessible to employees.

Bloodborne Pathogens Training
Employers shall ensure that all employees with occupational exposure participate in a training program, which must be provided at no cost to the employee and offered during working hours.

Training shall be provided as follows:
1. At the time of initial assignment to tasks where occupational exposure may take place;
2. At least annually thereafter
3. Annual training for all employees shall be provided within one year of their previous training
4. Supervisors shall provide additional training when changes, such as introduction of new engineering, administrative or work practice controls, modification of tasks or procedures or institution of new tasks or procedures, affect the employee's occupational exposure. The additional training may be limited to addressing the new exposures created
5. Material appropriate in content and vocabulary to the educational, literacy, and language levels of employees shall be used

Hepatitis B Vaccination
The employer shall make available the Hepatitis B vaccine and vaccination series to all employees who have an occupational exposure. Post-exposure evaluation and follow-up will be provided following bloodborne pathogens exposure.

- Hepatitis B vaccination shall be made available, after the employee has received the training required and within 10 working days of initial assignment.
immunization is made available to all employees who have occupational exposure unless the employee has previously received the complete Hepatitis B vaccination series, antibody testing has revealed that the employee is immune, or the vaccine is contraindicated for medical reasons.

- If the employee initially declines Hepatitis B vaccination but at a later date, while still covered under the standard, decides to accept the vaccination; the employer shall make available Hepatitis B vaccination at that time.

- 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.

Bloodborne Pathogen Post-exposure Evaluation and Follow-up
Following a report of an exposure incident, the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up, including the following elements:

- If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample shall be preserved for at least 90 days. If, within 90 days of the exposure incident, the employee elects to have the baseline sample tested, such testing shall be done as soon as feasible.

- The employer shall provide for post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;

- The employer shall provide for counseling and evaluation of reported illnesses.

Communication of Hazards to Employees
Labels:
Warning labels shall be affixed to containers of biohazardous or medical waste, refrigerators and freezers containing blood or Other Potentially Infectious Materials (OPIM), and other containers used to store, transport or ship blood or OPIM.

Exposure Determination
As part of the Biological Use Authorization process, the Exposure Determination was completed based on the specific risks for potential exposure to Bloodborne Pathogens in your laboratory. This exposure determination shall be made without regard to the use of personal protective equipment. All employees with potential exposure to Bloodborne Pathogens must meet the same requirements regardless of job classification.

Methods of Compliance
Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and body fluids are treated as if known to be infectious for Human Immunodeficiency Virus (HIV), Hepatitis B Virus (HBV), Hepatitis C
Virus (HCV), and other bloodborne pathogens. Universal precautions shall be observed to prevent contact with blood or OPIM. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

**Engineering and Work Practice Controls**

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.

All procedures involving blood or OPIM shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

**Work Practice Controls**

1. Eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is a reasonable likelihood of occupational exposure.
2. Food and drink shall not be kept in refrigerators, freezers, shelves, and cabinets or on countertops or benchtops where blood or OPIM are present.
3. Mouth pipetting/suctioning of blood or OPIM is prohibited.
4. Employers shall provide handwashing facilities, which are readily accessible to employees.
5. When handwashing facilities are not feasible, the supervisor shall provide either an appropriate antiseptic hand cleanser in conjunction with clean cloth/paper towels or antiseptic towelettes. When antiseptic hand cleansers or towelettes are used, hands shall be washed with soap and running water as soon as feasible.
6. Employees shall wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.
7. Employees shall wash their hands and any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following contact of such body areas with blood or OPIM.

**Biohazardous and Medical Waste Disposal**

All biohazardous waste must be decontaminated prior to disposal regardless of Biosafety Level.
Biosafety Level-1 Biohazardous Waste
Biosafety Level-1 Biohazardous Waste includes non-pathogenic:
- Lab strain E.coli K-12
- Transgenic Plants
- Transgenic Insects

Biosafety Level-1 Biohazardous Waste must be placed in white or clear biohazard bags with the International Biohazard Symbol and autoclaved in any autoclave prior to disposal.

Medical Waste at Biosafety Level-2 or Greater
Medical waste includes:
- Human and primate established or primary cell lines, blood, tissues or Other Potentially Infectious Materials (OPIM)
- Biosafety Level-2 or greater Infectious Agents
- Bloodborne Pathogens
- Sharps

Non-Sharp Medical Waste must be placed in a red biohazard bag with the International Biohazard Symbol and with autoclave tape and autoclaved in a Medical Waste Approved Autoclave or taken to a Medical Waste Storage Site for pick-up by an approved vendor for disposal. Medical waste in red biohazard bags must be placed in a leakproof secondary container with a closeable lid.

List of Certified Medical Waste Autoclaves or Storage Sites:
http://www.ehs.uci.edu/biosafe.html

Orange Biohazard Bags are Illegal in California! Do not Use!

Biohazardous and Medical Waste shall be disposed of in secondary containers which are:
- Closable;
- Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping;
- Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping
- All bins, pails, and cans intended for reuse which have a reasonable likelihood for becoming contaminated with blood or OPIM shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately, or as soon as feasible, upon visible contamination
Sharps (needles, scalpels, razor blades)

Prohibited Practices
1. Shearing or breaking of contaminated needles and other contaminated sharps is prohibited.
2. Contaminated sharps shall not be bent, recapped, or removed from devices.
3. Sharps that are contaminated with blood or OPIM shall not be stored or processed in a manner that requires employees to reach by hand into the containers where these sharps have been placed.
4. Disposable sharps shall not be reused.
5. Broken glassware which may be contaminated shall not be picked up directly with the hands. It shall be cleaned up using mechanical means, such as a brush and dustpan, tongs, or forceps.
6. The contents of sharps containers shall not be accessed unless properly reprocessed or decontaminated.
7. 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.

Sharps Containers

Requirements for Handling Contaminated Sharps
Immediately or as soon as possible after use, contaminated sharps shall be placed in sharps containers.
Sharps containers for contaminated sharps shall be:

- Easily accessible to personnel and located as close as is feasible to the immediate area where sharps are used or can be reasonably anticipated to be found (e.g., laundries)
- Replaced as necessary to avoid overfilling
- Rigid and puncture resistant
- Leakproof on the sides and bottom
- Portable, if portability is necessary to ensure easy access by the user
- Labeled with the International Biohazard Symbol
Disposal of Sharps Containers
The container shall be:
• Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping
• Sealable so that when sealed, the container is leak resistant and incapable of being reopened without great difficulty
• Placed in a secondary container

Pipet Disposal
Pipets may puncture biohazard bags and are considered sharps.

Pipets must be placed in a pipet disposal pouch or box (see below) prior to placement in a biohazard bag for disposal. Otherwise pipets must be disposed in a sharps container.

Handling Specimens of Blood or OPIM
Specimens of blood or OPIM shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.
1. The container for storage, transport, or shipping shall be labeled with the International Biohazard Symbol, and closed prior to being stored, transported, or shipped.
2. If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during collection, handling, processing, storage, transport, or shipping and is labeled.

Servicing or Shipping Contaminated Equipment
Equipment which may become contaminated with blood or OPIM shall be examined prior to servicing or shipping and shall be decontaminated
1. A readily observable biohazard label shall be attached to the equipment stating which portions remain contaminated.
2. Information concerning all remaining contamination shall be conveyed to all affected employees, the servicing representative, and/or the manufacturer, as appropriate, prior to handling, servicing, or shipping so that appropriate precautions will be taken.
Cleaning and Decontamination of the Worksite
The worksite must be maintained in a clean and sanitary condition. All equipment and environmental and work surfaces shall be cleaned and decontaminated after contact with blood or OPIM no later than at 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 overtly contaminated
- There is a spill of blood or OPIM
- Procedures are completed
- At the end of the work shift if the surface may have become contaminated since the last cleaning
- Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the work shift if they may have become contaminated during the shift

Personal Protective Equipment (PPE)
Where occupational exposure remains after 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 or OPIM 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.

The supervisor shall ensure:

- The employee uses appropriate personal protective equipment
- Appropriate personal protective equipment in the appropriate sizes is readily accessible at the worksite or is issued to employees. Hypoallergenic gloves, glove liners, powderless gloves, or other similar alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided.
- PPE is cleaned, laundered, and disposed at no cost to the employee.
- PPE is repaired or replaced as needed to maintain its effectiveness, at no cost to the employee.

Removal of PPE

- If a garment(s) is penetrated by blood or OPIM, the garment(s) shall be removed immediately or as soon as feasible
- All personal protective equipment shall be removed prior to leaving the work area
- When personal protective equipment is removed, it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal

Gloves

- Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, OPIM, mucous membranes and non-intact skin, and when handling or touching contaminated items or surfaces
• Disposable (single use) gloves such as surgical or examination gloves, shall be replaced as soon as practical when contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised
• Disposable (single use) gloves shall not be washed or decontaminated for re-use
• Utility gloves may be decontaminated for re-use if the integrity of the glove is not compromised. However, they must be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised

Masks, Eye Protection, Face Shields, and Respirators
Masks in combination with eye protection devices, such as goggles or glasses with solid side shields or chin-length face shields, shall be worn whenever splashes, spray, spatter, droplets of blood or OPIM may be generated and eye, nose, or mouth contamination can be reasonably anticipated.
When respiratory protection is used, the Biosafety Officer must be notified to perform a risk assessment and to ensure that all components of the Respiratory Protection Standard have been met.

Note: Surgical masks are not respirators.

N-95 Respirator     Surgical Mask

For additional information on which mask or respirator to use go to the website at: http://www.ehs.uci.edu/biosafe.html.

Gowns, Aprons, and Other Protective Body Clothing
Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, clinic jackets, or similar outer garments shall be worn in occupational exposure situations.