POURPOSE

The U.S. Occupational Safety and Health Administration’s (OSHA) final standard for occupational exposure to bloodborne infectious diseases (aka, the Bloodborne Pathogens Standard) became effective July 15, 1993. It was designed to eliminate or minimize occupational exposure to Hepatitis B Virus (HBV), Hepatitis C Virus (HCV), Human Immunodeficiency Virus (HIV), and other bloodborne pathogens.

The Bloodborne Pathogens Standard requires employers to implement a combination of engineering and work practice controls, personal protective clothing and equipment, informational training, Hepatitis B vaccination, post exposure evaluation and follow-up, sign and label programs, and other provisions for employees who may be reasonably anticipated to come into contact with blood or other potentially infectious materials (OPIM) during the performance of their job duties.

Human Blood And Body Fluids

Working safely with human blood and certain/body fluids requires that Universal Precautions be followed. Laboratory personnel should assume that all human blood, body fluid, and tissues are infectious. The Centers for Disease Control and National Institutes for Health recommend that Biosafety Level 2 (BSL 2) standards, containment, and facilities be used for activities involving clinical specimens, body fluids and tissues from humans or from laboratory animals infected or inoculated with human material (see Biosafety in Microbiological and Biomedical Laboratories 5th Ed., U.S. Dept. of Health and Human Services). These standards should also be applied to work with human cells in culture, human serum-derived reagents which may be used as controls, and any blood obtained from the Red Cross.

PERSONS INCLUDED IN THE PLAN AND UNIVERSITY RESPONSIBILITIES

1. Any UMass laboratory staff person, who, by the nature of their job required tasks, has occupational exposure to blood or other potentially infectious materials shall be included in this plan.
2. All newly hired employees covered by this regulation and employees who through transfer or change of job description become covered by this standard shall also be reported to EH&S for inclusion under the plan.
3. All required training, personal protective equipment; engineering controls, record keeping, other supplies and testing necessary for compliance with the standard shall be supplied at no cost to the employee.
4. All covered employees shall be offered immunization against Hepatitis B Virus (HBV) and/or any other job appropriate immunizations.
DEFINITIONS

1. Occupational Exposure means 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.


3. Other Potentially Infectious Materials (OPIM) means:
   - 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 body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids,
   - Any unfixed tissue or organ (other than intact skin) from a human (living or dead), and
   - HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

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

5. Bloodborne Pathogens means pathogenic microorganisms that are or may be 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).

6. Engineering Controls means controls that isolates or removes the bloodborne pathogens hazard from the workplace (e.g., sharps disposal containers and self-sheathing needles).

7. Personal Protective Equipment is specialized clothing or equipment worn by an employee for protection against a hazard (e.g., gloves face protection, respirators, gowns, etc.). General work clothes (uniforms) not intended to function as protection against a hazard are not considered to be personal protective equipment. Other definitions may be found in the text of the regulation.

EXPOSURE CONTROL

Employees incur risk each time they are exposed to blood or OPIM. Any exposure incident may result in infection and subsequent illness; therefore exposures must be prevented whenever possible. The goal of the OSHA Bloodborne Pathogen Standard is to reduce the significant risk of infection by:

- Eliminating or limiting occupational exposure to blood and OPIM
- Providing the hepatitis B vaccine
- Providing post exposure medical evaluation and follow-up

All employees who hold positions that have been determined to have occupational exposure are entitled to the protection afforded by the Standard.
EXPOSURE CONTROL PLAN

The Exposure Control Plan (ECP) is the key provision of the OSHA Bloodborne Pathogen Standard and of the University of Massachusetts/Amherst Laboratory Occupational Health Program for human source material. The Plan identifies individuals who are potentially exposed to human blood or OPIM and requires that they be provided with appropriate training and protective clothing and equipment, and that they also be offered the Hepatitis B vaccination.

Based on the requirements established by the Standard, the ECP has been developed and designed to minimize the risk of employee occupational exposure to bloodborne pathogens during the performance of their duties.

The following elements are contained in the Plan:

1. Exposure determination
2. Universal Precautions
3. Engineering and work practice controls
4. Personal protective equipment
5. Housekeeping
6. Regulated Medical Waste
7. Laundry
8. Hepatitis B vaccination of declination form; post-exposure evaluation and follow up
9. Communication of hazards to employees
10. Summary of training program
11. Recordkeeping

The ECP will be reviewed and updated annually and as when necessary.

Each department in which there is a potential for occupational exposure shall develop and implement task-specific standard operating procedures (SOPs) that address each of the following areas:

1. Employee recognition of reasonably anticipated exposure to blood and OPIM
2. Appropriate selection, use, maintenance, and disposal of PPE
3. Contingency plans for foreseeable circumstances that require deviating from recommended SOPs.

Exposure Determination

A review of employee positions has been conducted to determine which employees have occupational exposure to blood or other potentially infectious materials during the performance of their duties. Job classifications were divided into two categories:

**Category A:** Consists of occupations that involve exposure or reasonably anticipated exposure to blood or OPIM.

**Category B:** Consists of occupations that do not require tasks that involve exposure to blood or OPIM on a routine or non-routine basis as a condition of employment.

Category A Job Classifications: (not all inclusive)

1. Students working in laboratories
2. Environmental Health and Safety personnel
3. Lab Animal Technicians
4. Laboratory Managers
5. Facilities Maintenance
6. Public Safety Officers
7. Research Associates
8. Research Assistants
9. Research Scientists
10. Research Specialists
11. Research Technicians

Universal Precautions
Universal Precautions will be observed by all employees to prevent contact with blood and OPIM, which includes:

1. Human body fluids such as blood, semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations 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).
3. HIV-containing cell or tissue cultures, organ cultures, and HIV or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

The underlying concept of Universal Precautions is that all blood and certain body fluids are considered to be infectious for bloodborne pathogens. Employees must treat all blood and potentially infectious materials as though they are known to be infected. This can be accomplished through a variety of measures including, but not necessarily limited to:

- Engineering controls
- Work practice controls
- Personal protective equipment
- Housekeeping

The only exception to the use of Universal Precautions is in unexpected, extraordinary circumstances involving the provision of health care or public safety services. An example of this would be a medical emergency where an employee is unable to put on gloves, don a gown, or tie on a surgical mask or respirator immediately. This does not mean that an employee can decide not to use PPE because he / she consider this use to be impractical. It is an option only in rare situations where the employee decides that such equipment will prevent the proper delivery of health care or public safety services, or it will create a greater hazard to their personal safety if such equipment is used.

Engineering and Work Practice Controls
Engineering and work practice controls are the primary means of reducing employee exposure in the workplace, by either removing the hazard or isolating the worker from the hazard.

1. Engineering controls eliminate or reduce employee exposure by acting on the source of the hazard, and not relying on the employee to take self protective action. Engineering controls may include process or equipment redesign (e.g. use of self-sheathing needles), process or equipment enclosure, (e.g. biosafety cabinets), and employee isolation.
2. **Work practice controls** reduce the likelihood of exposure by altering the manner in which a task is performed. The protection they provide is based more upon the behavior of the employer and employee. Engineering and work practice controls should be used together to ensure maximum protection for employees.

Where the risk of occupational exposure still remains after the implementation of engineering and work practice controls, departments must provide and assure that employees use PPE to further protect themselves.

Listed below are engineering and work practice controls that should be in place in all UMass facilities where there is a potential for BBP exposure:

1. **Hand Washing Facilities**
   In all facilities where employees are reasonably anticipated to come into contact with blood or OPIM, hand washing facilities must be readily accessible. Where hand-washing facilities are not feasible, departments will provide other means (antiseptic hand cleanser with clean cloth/paper towels or antiseptic towelettes) by which employees can clean their hands. When these other methods are used, employees will be instructed to wash their hands as soon as feasible with soap and warm running water. Employees are required to wash their hands or any other skin with soap and water, or flush mucous membranes with water immediately or as soon as feasible following exposure of those body areas to blood or OPIM. Employees are also required to wash their hands immediately or as soon as feasible after removal of gloves or other PPE. Reusable personal protective equipment, if contaminated, shall be decontaminated and inspected prior to reuse.

2. **Sharps Use**
   a. Consideration should be given to reduce or eliminate occupational exposure to needles.
   b. Contaminated needles and other contaminated sharps should not be bent, recapped, or removed unless it can be demonstrated by the department that no alternative is feasible or that such action is required by a specific medical procedure. Under these circumstances, recapping or needle removal shall be accomplished through the use of a mechanical device or one-handed technique.
   c. Broken glassware which may be contaminated with human body fluids shall not be picked up directly with the hands. It shall be handled using mechanical means, such as a brush and dustpan, tongs or forceps. The contaminated broken glassware shall be placed in a puncture resistant container and disposed as medical waste. Decontamination of the broken glassware by autoclave or chemical means may be necessary to protect subsequent handlers of the waste.
   d. Immediately or as soon as feasible after use, contaminated sharps shall be placed in appropriate containers. These containers shall be:
      * Puncture resistant
      * Appropriately labeled or color-coded
      * Leak proof on the sides and bottom
      * Not handled in a manner that requires employees to reach by hand into the sharps containers
3. **Other Procedures**

Eating, smoking, drinking, applying cosmetics or lip balm, and handling contact lenses are prohibited in work areas where there is reasonable likelihood of occupational exposure to blood or OPIM. Food and drink will not be stored in refrigerators, freezers, shelves, cabinets, or on cabinet tops or bench tops where blood or OPIM are present.

All procedures involving blood or OPIM shall be performed in a manner to minimize splashing, spraying, spattering, and generation of aerosols of these substances. Mouth pipetting / suctioning of blood or other potentially infectious materials is strictly prohibited. Specimens of blood or OPIM shall be placed in a container, which prevents leakage during collection, handling, processing, storage, transport or shipping. The container for storage, transport, or shipping shall be labeled or appropriately color coded and closed prior to being stored, transported or shipped. When Standard / Universal Precautions are utilized in the handling of specimens, the labeling / color coding of specimens is not necessary provided that containers are recognizable as containing specimens. This exception only applies while such specimens / containers remain within the facility. Appropriate labeling/color coding is required when such specimens / containers leave the facility.

If the outside of the container becomes contaminated, the primary container will be placed inside a second container which prevents leakage during handling, processing, storage, transport, or shipping and will be appropriately labeled or color-coded. If the specimen could puncture the primary container, it will be placed inside a secondary container that is also puncture resistant.

Equipment that may become contaminated with blood or OPIM will be decontaminated prior to servicing or shipping, unless it can be demonstrated that decontamination of the equipment or portions of the equipment is not feasible. In this event, the equipment will be appropriately labeled in a readily observable area stating what area on the equipment is still contaminated. The department is responsible for ensuring that this information is conveyed to all affected employees, the servicing representative, and / or the manufacturer as appropriate, before handling, servicing, or shipping, so that appropriate precautions will be taken.

**Personal Protective Equipment**

Where there is occupational exposure, each department will provide, at no cost to the employee, appropriate PPE such as, but not limited to, gloves, gowns, laboratory coats, face shields, surgical masks, respirators, or other appropriate devices. Respirators are required in certain settings but all potential users must first be evaluated by the University Health Services Department. Use of respirators requires a Respiratory Protection Program and evaluation for the fit of the respirator and a medical evaluation of the individual wearing the respirator.

1. Respirators cannot be worn by lab personnel without following the above guidelines. PPE should not permit blood or OPIM to pass through to or reach the employee's work clothes, street clothes, undergarments, skin, eyes, mouth or other mucous membranes under normal conditions of use, and for the duration of time in which the protective equipment will be used.

2. Each user department will ensure that appropriate PPE in the appropriate sizes is readily accessible at the work site or is issued to employees. If an employee is allergic to the gloves provided, hypoallergenic gloves, powderless gloves, or other alternatives will be provided at no cost to the employee.
3. Each user department will ensure that the employee uses appropriate PPE unless it can be demonstrated that, under rare and extraordinary circumstances, it was the employee's judgment that its use would have prevented delivery of health care or public safety services or it would have posed an increased hazard to the safety of the worker or a co-worker.

4. User departments will repair or replace PPE whenever necessary, at no cost to the employee. Departments will also clean, launder, and dispose of PPE at no cost to the employee.

5. PPE will be removed prior to leaving the work area. If a piece of protective clothing is penetrated by blood or other potentially infectious materials, it will be removed immediately or as soon as feasible. As soon as personal protective clothing or equipment is removed, it will be placed in an appropriately designated area or container for storage, washing, decontamination, or disposal.

6. Surgical masks or respirators and eye protection devices, such as goggles or glasses with solid side shields, or chin-length face shields, shall be worn whenever splashes, spray or aerosols of blood or OPIM may be generated and there is a potential for mucous membranes (eyes, nose, mouth) to be exposed to the material.

7. Appropriate protective clothing such as, but not limited to, gowns, aprons, lab coats, or similar outer garments, shall be worn in areas where there is a potential for occupational exposure. The type of clothing selected will depend upon the tasks being carried out and the degree of exposure anticipated. In situations where gross contamination can be reasonably anticipated, (e.g. during necropsies), surgical caps or hoods and shoe covers or boots will be worn.

8. Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood or OPIM, when performing vascular access procedures, and when handling or touching contaminated items or surfaces.

9. 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 an effective barrier is compromised. Disposable gloves shall not be washed or decontaminated for reuse. Heavier utility gloves may be decontaminated for reuse if the integrity of the glove is not compromised. If the gloves are cracked, torn, punctured or deteriorated and can no longer function as an effective barrier, they must be discarded.

**Housekeeping**

Departments shall ensure that worksites are maintained in a clean and sanitary condition. Each department shall determine and implement an appropriate written schedule for cleaning and a method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

1. All equipment, environmental surfaces, and working surfaces must be cleaned and decontaminated after contact with blood or OPIM. Contaminated work surfaces shall be decontaminated with an appropriate disinfectant, such as a 1:10 solution of sodium hypochlorite or an approved germicidal cleaner, after completion of procedures, immediately or as soon as feasible when surfaces are overtly contaminated, or after any spill of blood or OPIM, and at the end of the work shift if they have become contaminated since the last cleaning.

2. Protective coverings (e.g. plastic wrap, aluminum foil, or imperviously-backed absorbent paper), used to cover equipment and environmental surfaces, will be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the work shift if they have become contaminated during the shift.
3. All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood of becoming contaminated with blood or other potentially infectious materials will be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

4. Broken glassware that may be contaminated must not be picked up directly with the hands. The spill and/or debris will be cleaned up using mechanical means such as a brush and dustpan, tongs, or forceps. Reusable sharps that are contaminated with blood or other potentially infectious materials 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.

**Regulated Medical Waste**

In Massachusetts, potentially-infectious medical and biological waste is regulated by the Department of Public Health under 105 CMR 480.000, Minimum Requirements for the Management of Medical or Biological Waste (State Sanitary Code Chapter VIII). Per this regulation, there are six categories of ‘regulated medical and biological waste’:

1) Human blood, blood products, and other potentially infectious materials as defined by OSHA
2) Human pathological waste
3) Cultures and stocks of infectious agents and associated biological
4) Contaminated animal carcasses, body parts, body fluids, and bedding
5) Sharps
6) Biotechnology byproduct effluents.

Regulated medical waste must be placed in containers that are:

- Closable
- Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping
- Appropriately labeled or color coded
- Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping

If outside contamination of the regulated waste container occurs, it must be placed in a second container that meets the same requirements listed above for the primary container.

The collection of regulated waste for disposal is carried out by a Stericycle or other approved vendor/contractor.

Disposal of regulated waste will be in accordance with applicable federal, state, and local regulations. Contaminated sharps will be discarded immediately or as soon as feasible in containers that are:

- Closable
- Puncture resistant
- Leak proof on sides and bottom
- Appropriately labeled or color-coded

During use, sharps containers 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.
• Maintained in an upright position throughout use
• Replaced routinely and not be allowed to overfill

When moving containers of contaminated sharps from the area of use, the containers must be:
• Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping
• Placed in a secondary container if leakage is possible. The second container will be:
  ✓ Closable
  ✓ Constructed to contain all contents and prevent leakage during handling, storage, transport or shipping
  ✓ Appropriately labeled or color-coded

Reusable containers will not be opened, emptied, or cleaned manually or in any manner that would expose employees to the risk of needle stick injuries.

Details about collecting and properly disposing of potentially infectious regulated medical and biological waste at the UMass is presented in Section C, Waste Management, of this Manual.

Laundry

1. Contaminated laundry will be handled as little as possible, with a minimum of agitation. It must be bagged or put into containers at the location where it was used. Prior to removal from the facility, all lab laundry will be appropriately disinfected. Whenever contaminated laundry is wet and may be reasonably expected to soak or leak through a normal container, the laundry will be placed and transported in bags or containers that prevent soak through and/or leakage of fluids to the exterior.

2. User departments will provide laboratorians who may have contact with contaminated laundry with appropriate PPE including gloves and protective clothing.

3. When a department ships contaminated laundry off site to a second facility which does not utilize standard/universal precautions in the handling of all laundry, the department generating the contaminated laundry must place such laundry in bags or containers which are appropriately labeled or color coded. The department shall ensure that all contaminated laundry is cleaned and laundered in such a way that any bloodborne pathogens present are inactivated or destroyed.

Hepatitis B Vaccination Program

There is a safe and effective vaccine against Hepatitis B. Three injections are required for full protection. The second injection is given one month after the first, and the third is given five months later. Remember, this vaccination only provides protection against hepatitis B virus.

In over 90 percent of individuals who complete the vaccination series, long term protection against hepatitis B is provided.

All ‘Category A’ employees shall be offered immunization against Hepatitis B Virus (HBV) within at least 10 working days of initial assignment and after the employee has received biosafety training. The HBV vaccination will be given in accordance with recommendations of the U.S. Public Health Service current at the time the vaccination takes place.
1. The prescreening, hepatitis B vaccinations, post screening and necessary boosters will be administered by the Student Health Service in compliance with current recommendations.

2. Employees who refuse to participate in a prescreening program will not be excluded from the program.

3. Employees who initially decline hepatitis B vaccination but at a later date, while still covered under the standard, decide to accept the vaccination shall be given such in a timely manner.

4. Covered employees who decline to accept hepatitis B vaccination when offered, shall sign the Hepatitis B Notification form. Notification form is given out during Initial Bloodborne Training.

5. 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 to all covered employees.

**Post-Exposure Evaluation and Follow up**

The importance of immediate medical evaluation cannot be over emphasized. The reason for this is because if the initial medical evaluation determines that the risk for BBP exposure is high for HIV or Hepatitis B, post-exposure prophylactic (PEP) treatment should be started immediately to have its maximum protective effect.

1. An exposure incident shall be reported by the employee to the supervisor, manager or dean who shall complete an Incident Report.

2. The exposed worker shall then report to the University Health Service or Cooley Dickinson Hospital for a confidential medical evaluation and follow-up which shall include the following:

3. Exposed employees are encouraged to report illness symptoms consistent with HIV, HBV and HCV infection for the six-month period immediately following exposure.

The medical evaluation and follow-up will include at least the following elements:

1. Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred.

2. Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local laws.
   a. The source individual's blood will be tested as soon as feasible after consent is obtained in order to determine HBV, HCV and HIV infectivity (written consent required for HIV; verbal consent for HBV and HCV is acceptable). If consent is not obtained, the department will establish that legally required consent cannot be obtained. When the source individual's consent is not required by law, the source individual's blood, if available will be tested and the results documented. A source individual who is deemed no awake, aware, or mentally competent to provide informed consent for BBP testing will not be tested, even if blood specimens are available, unless and until in the short term mental competency is regained.
   b. When the source individual is already known to be infected with HBV, HIV, or HCV, testing for the source individual's known HBV, HCV or HIV status may not need to be repeated. Confirmation of prior infection and current health status will be requested with the source individual’s permission in the form of a letter or verbal communication from the source individual’s treating doctor, and when indicated, more current laboratory test results. The reason for securing current health status information is that some source individuals who have been infected remotely with Hepatitis B or C, may have fully recovered and, if so, no longer pose a risk of transmission.
c. Results of the source individual's testing shall be made available to the exposed employee, and the employee shall be informed of applicable laws and regulations concerning disclosure of the identity and infectious status of the source individual.
d. Collection and testing of source individual’s blood for HBV, HCV and HIV serological status:

3. The exposed employee's blood will be collected as soon as feasible and tested after consent is obtained.
4. If the employee consents to baseline blood collection, but does not give consent at that time for HIV serologic testing, the sample will 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 will be done as soon as feasible.
5. Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service as soon as possible after the known exposure, preferably within two hours of the exposure and no longer than 72 hours.
6. Counseling of the exposed worker will cover the topics of symptomatology, risk of disease transmission and behavior modification recommended for at risk individuals.
7. All diagnostic laboratory tests will be conducted by an accredited laboratory at no cost to the employee.

Information Provided to the Healthcare Professional
UMass will provide the healthcare professional evaluating an employee after an exposure incident with the following information:

1. A description of the exposed employee's duties as they relate to the exposure incident.
2. Documentation of the route(s) of exposure and circumstances under which exposure occurred.
3. Results of the source individual's blood testing, if available, or health status with regard to BBP infection, if known.
4. All medical records relevant to the appropriate treatment of the employee, including vaccination status.
5. A description of any PPE used or to be used.

Healthcare Professional's Written Opinion
University Health Service healthcare professional’s written opinion shall be made available to the employee within 15 days of the completion of the evaluation. The healthcare professional's written opinion for Hepatitis B vaccination will be limited to whether Hepatitis B vaccination is indicated for an employee and if the employee has received the vaccination. The healthcare professional's written opinion for post-exposure initial evaluation and follow-up will be limited to the following information:

1. That the employee has been informed of the results of the evaluation.
2. That the employee has been told about any medical conditions resulting from exposure to blood or OPIM which require further evaluation or treatment, and has been educated about what personal precautions to follow in order to prevent potential transmission of infection to others.
3. That the employee has been informed of the recommended use of personal protective clothing or equipment, and temporary or permanent work restrictions, if appropriate.

All other findings or diagnoses will remain confidential and will not be included in the written report.
Communication of Hazards to Employees

Labels and Signs

1. Warning labels shall be affixed to containers and bags of regulated, biological, and medical waste, refrigerators, and freezers containing blood or OPIM, and other containers used to store, transport or ship blood or OPIM.

2. Contaminated equipment scheduled for maintenance or repair will be labeled in accordance with the provisions in this section and the label will also state which portions of the equipment remain contaminated.

3. Labels will be affixed as close as feasible to the container by string, wire, adhesive, or other method that prevents their loss or unintentional removal.

4. The label will be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color as follows:

Exemptions to the labeling requirement:

* Containers of blood, blood components, or blood products that are labeled as to their contents and have been released for transfusion or other clinical use do not need to be labeled in accordance with the provisions outlined in this section.

* Individual containers of blood or OPIM that are placed in a labeled container during storage, transport, shipment, or disposal do not need to be labeled in accordance with the provisions outlined in this section.

* Regulated, medical, and biological waste that has been decontaminated does not need to be labeled.

Signs will be posted at the entrance to research laboratories. These signs will be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color. Signs will bear the following legend and information:

AUTHORIZED PERSONNEL ONLY

Identification of Hazard:

P.I. Responsible:__________________________________________________________

Phone number:__________________________________________________________

Special requirements for entering laboratory:_______________________________
Information and Training

All personnel who work with potentially viable biological materials, including microorganisms, cells or cell lines, tissue cultures, recombinant DNA, organisms or viruses, animal blood, body fluids, or animals, shall receive the available Biosafety Training. Annual Biosafety training is required for all individuals that work with human source material and/or work at biosafety level 2 or higher. Annual training may be accomplished in a classroom training or with EH&S’s OWL (On-line Web-based Learning).

The Biosafety Training covers the following general elements:

- Biosafety levels
- Human source materials / infectious microbes / OSHA Bloodborne Pathogens Standard
- Routes of Transmission
- Disinfection
- Biosafety cabinets
- Accidental spill and exposure procedures
- Biological Waste
- Recombinant DNA and NIH Guidelines
- Universal Precautions
- Hepatitis B Vaccination
- Personnel protective equipment
- Medical surveillance

Employees working in HIV, HCV or HBV research laboratories will receive specialized initial training by Principal Investigators (PI), in addition to the established Biosafety Training Program. Additional elements of this training program will include:

- Provisions to verify 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 HIV or HBV.
- Provisions to verify that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.
- Provisions to provide a training program 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. These provisions will ensure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

Recordkeeping

Training Records

EH&S will maintain training records. All training records will be provided upon request for examination and copying as appropriate and legal. Training records will include the following information:

- Dates of the training sessions
- The contents or a summary of the training sessions
• The names and qualifications of the persons conducting the training
• The names and job titles of all persons attending the training sessions

Medical Records
University Health Services will establish and maintain an accurate record for each UMD employee with occupational exposure. The record shall include:
• A copy of the employee's Hepatitis B vaccination status including the dates of all the Hepatitis B vaccinations and any medical records relative to the employee's ability to receive vaccination
• A copy of all results of examinations, medical testing, and follow-up procedures required
• The copy of the healthcare professional's written opinion as required
• A copy of the information provided to the healthcare professional as required