Exposure Control Plan

Fitchburg State University

160 Pearl Street

Fitchburg, MA 01420

Exposure Control Plan

1.0 Plan Overview

1.1 Purpose of this Plan

The Fitchburg State University Exposure Control Plan is developed in accordance with the Occupational Safety and Health Administration Bloodborne Pathogens Standard (29 CFR 1910.1030), including requirements established under the Needlestick Safety and Prevention Act. The Plan incorporates current guidance from the Centers for Disease Control and Prevention and reflects Fitchburg State University's commitment to minimizing occupational exposure through the use of safer medical devices, updated work practices, and employee involvement in exposure prevention.
These Include:

- Methods of compliance (engineering controls, work practices, and personal protective equipment used to minimize exposures)
- Initial training for eligible employees and annual refresher training
- Employee exposure situations
- Communication of hazards to individuals
- Procedures for hepatitis B vaccinations, post-exposure vaccinations and follow-up
- Record keeping practices

The specific methods instituted to implement each of these sections of the Exposure Control Plan are described in the designated chapters of this document. The Exposure Control Plan will be reviewed and updated annually to reflect new or modified tasks or procedures that affect potential occupational exposure situations.

1.2 Roles and Responsibilities

The Fitchburg State Environmental Health and Safety (EHS) Officer will coordinate implementation of the Exposure Control Plan. The EHS Officer will work closely with campus administrators to develop any additional policies and practices needed to support the effective implementation of the Exposure Control Plan and review, revise, or update the Exposure Control Plan as needed. The EHS Officer will coordinate with Department Heads and Supervisors, to identify hazards,

ensure that individuals are trained and vaccinated when needed, and keep records to qualify eligible individuals for periodic retraining.

Department Heads and Supervisors are responsible for exposure control in their areas and for ensuring that proper exposure control procedures are followed. Supervisors are responsible for providing job-specific information and training to all employees under their jurisdiction who have the potential for exposure to bloodborne pathogens.

Individuals have a responsibility for their own safety and shall comply with the procedures outlined in the Exposure Control Plan.

1.2.1 Environmental Health and Safety Officer

- Assists Departments with hazard assessments to identify eligible employees and determine jobs or tasks where exposure to blood or other potentially infectious materials (OPIM) is possible.
- Determines, in conjunction with the Department, applicable engineering controls, safe work practices, and personal protective equipment (PPE) to prevent blood and/or OPIM exposure to campus community members.
- Coordinates annual training via on-line or classroom delivery as deemed necessary and appropriate for each Department.
- Maintains centralized records of bloodborne pathogens training for all eligible campus community members.
- Assists Departments with bloodborne pathogens and exposure control issues upon request.
- Evaluates and updates this program document as necessary and on an annual basis.
- Assists departments in communicating the Exposure Control Plan to third-party vendors who perform tasks on campus that may expose them to blood and/or OPIM.

1.2.2 Departments

- Provide, at no cost, all supplies and PPE that are necessary for compliance with this Plan.
- Provide all eligible staff with access to this Plan.
- Ensure that eligible staff complete initial training and annual retraining and comply with the requirements of this Plan.

- Inform staff regarding specific work practices required by their specific Department.
- Coordinate the storage and disposal of biohazardous waste contaminated with blood and OPIM.

1.2.3 Employees

- Adhere to the requirements of this Plan.
- Complete the required initial and annual bloodborne pathogens training as directed by your Department.
- Complete and submit the Hepatitis B vaccination form (regardless of whether you are accepting the vaccine).
- Report all suspected exposure incidents to the Department, EHS Officer and Health Services.
- Complete a written incident report and file with the Department.

1.2.4 Human Resources

- Maintains employee medical records and documentation of Hepatitis B vaccination status.

1.3 Program Review

This Exposure Control Plan must be reviewed and updated annually and whenever:

- There are new or modified tasks and procedures which affect occupational exposure
- There are new or revised employee positions with occupational exposure
- The results of exposure incident investigations indicate major deficiencies in the program, or opportunities for significant improvement in these policies and procedures are otherwise identified.

The review will consider changes in technology that eliminate or reduce exposure to bloodborne pathogens, and any appropriate commercially available and effective safer medical devices for providing first aid or CPR that are designed to eliminate or minimize occupational exposure. The review will be documented and should include: the employees involved in the review, consideration of any new technology or safer devices, and any updates or revisions made to the program. The form provided in Appendix D will be used to aid in meeting this documentation requirement.

2.0 Exposure Determination

OSHA requires that employers determine which employees may incur occupational exposure to blood or OPIM, and that this determination be made without regard to the frequency of exposure or use of personal protective equipment. The OSHA standard states that the exposure determination must include:

- A list of all job classifications in which all employees in those job classifications have occupational exposure;
- A list of job classifications in which some employees have occupational exposure, and
- A list of all tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs and that are performed by employees in the job classifications listed above.

Fitchburg State has conducted an exposure determination to identify which Fitchburg State employees, students and visitors may be more likely to be at risk for exposure to bloodborne pathogens. This determination was made without regard to the use of PPE and regardless of the frequency of exposure. The job classifications listed in Table 2.1 were determined to be at risk to incur occupational exposure to human blood or OPIM; students in the following academic programs or University-sponsored activities were determined to be at risk to incur non-occupational exposure to human blood or OPIM.

Note: Students may have risk of exposure to bloodborne pathogens or OPIM in the course of participating in their academic program or other University-sponsored activity. The student's department is not required to cover the cost for such students to have a hepatitis B vaccine.
However, the department is encouraged to adopt a policy that compels affected students to obtain the vaccine privately and show evidence of this to the department prior to incurring the risk of exposure. See section 8 for more information.

Table 2.1 Exposure Determinations by Job Classification

Campus Department	Occupations where ALL staff have occupational exposure risk	Occupations where SOME staff have occupational exposure risk	Specific tasks with occupational exposure risk	Academic Program or University sponsored activity where students incur exposure risk

Table 2.1 Exposure Determinations by Job Classification				
Health Services	Medical Doctor Registered Nurse Nurse Practitioner	-	Response to incidents. Designated First Aid Responder.	Student Employees
Campus Police	Police Chief Police Lieutenant Police Sergeant Police Officer	-	Response to incidents. Designated First Aid Responder.	-
Environmental Health and Safety	Environmental Health and Safety Officer	-	Response to incidents. Designated First Aid Responder.	-
Building Services Housing & Residential Services	Custodial Staff Building Service Worker Plumber	Maintenance Supervisor Working Foreman	Cleaning and plumbing tasks where blood or OPIM are present	-
Grounds	Grounds Staff	-	Cleaning and plumbing	-
Athletics	Athletic Trainer Athletic Coach Athletic Equipment Manager	-	Tasks where blood or OPIM are present	Student Athletes
Recreation Services	Recreation Services Staff	-	Tasks where blood or OPIM are present	Students using recreation services
Academic Departments: Biology/Chemistry Exercise and Sport Science Nursing	Professor Research Assistant Laboratory Technician	Professor Research Assistant Laboratory Technician	Use of blood, blood products, or OPIM in research or teaching	Undergraduate students in affected departments

OPIM Other Potentially Infectious Material

Other positions may be included in this program by request or further evaluation.

* Positions considered to have occupational collateral duty exposure risk to bloodborne pathogens or OPIM as defined in Appendix A of this plan. Individuals in positions with occupational collateral duty exposure to bloodborne pathogens do not need to be offered a pre-exposure Hepatitis B vaccination provided that the affected strictly follows the procedures in Section 8.

3.0 Bloodborne Diseases and Modes of Transmission

3.1 Bloodborne Pathogens

Bloodborne pathogens are microorganisms such as viruses or bacteria that are carried in blood and can cause disease in people. There are many different bloodborne pathogens, including malaria, syphilis, and brucellosis, but Hepatitis B (HBV), Hepatitis C (HCV), and the Human Immunodeficiency Virus (HIV) are the diseases specifically addressed by the OSHA bloodborne Pathogen Standard.

3.1.1 Hepatitis B (HBV)

In the United States, approximately 20,000 people are infected with HBV annually. Of these cases, approximately 0.5-1% are fatal.

"Hepatitis" means "inflammation of the liver," and, as its name implies, Hepatitis B is a virus that infects the liver. Hepatitis B is transmitted primarily through percutaneous (i.e., puncture through the skin) or mucosal contact with infected blood or body fluids. Hepatitis B initially causes inflammation of the liver, but it can lead to more serious conditions such as cirrhosis and liver cancer.

There is no "cure" or specific treatment for HBV, but the HBV vaccine is considered to be highly successful at preventing the disease, and is held largely responsible for the sharp decline in reported cases since the vaccine became widely available in the late 1980s. It is important to note, however, that there are different kinds of hepatitis, so vaccination for HBV will not stop someone from getting another type.

The Hepatitis B virus is very durable, and it can survive in dried blood for at least seven days. For this reason, this virus is a primary concern for employees such as housekeepers, custodians, laundry personnel and other employees who may come in contact with blood or potentially infectious materials in a non first-aid or medical care situation. The virus can be inactivated with a freshly prepared 1:10 bleach solution.

The symptoms of HBV are very much like a mild "flu." Initially there is a sense of fatigue, possible stomach pain, loss of appetite, and even nausea. As the disease continues to develop, jaundice (a distinct yellowing of the skin and eyes), and a darkened urine will often occur.
However, people who are infected with HBV will often show no symptoms for some time. After exposure it can take 2-5 months before symptoms become noticeable. Loss of appetite and stomach pain, for example, commonly appear within 1-3 months, but can occur as soon as two weeks or as long as 6-9 months after infection.

3.1.2 Hepatitis C (HCV)

Chronic HCV infection is the leading cause for liver transplantation in the United States. Approximately 30,000 people are infected with HCV each year, and approximately 80% of those new cases will become chronic. HCV is transmitted primarily through percutaneous contact.
Transmission via mucosa! exposure occurs rarely. Symptoms ofHCV include fatigue, loss of appetite and jaundice, but many cases are asymptomatic. Chronic infection may lead to chronic liver disease, cirrhosis and liver cancer.

The Hepatitis C virus is extremely durable, and can survive outside the body at room temperature for up to 3 weeks. The virus can be inactivated with a freshly prepared 1:10 bleach solution.
There is currently no vaccine for HCV.

3.1.3 Human Immunodeficiency Virus (HIV)

HIV stands for human immunodeficiency virus. It is the virus that can lead to acquired immunodeficiency syndrome, or AIDS. No safe and effective cure for HIV or AIDS currently exists, but with proper medical care, HIV can be controlled. Treatment for HIV is often called antiretroviral therapy or ART. It can dramatically prolong the lives of many people infected with HIV and lower their chance of infecting others. Before the introduction of ART in the mid-1990s, people with HIV could progress to AIDS in just a few years. Today, someone diagnosed with HIV and treated before the disease is far advanced can have a nearly normal life expectancy. HIV affects specific cells of the immune system, called CD4 cells, or T cells. Over time, HIV can destroy so many of these cells that the body can't fight off infections and disease. When this happens, HIV infection leads to AIDS.

The CDC estimates that an average of 50,000 people are infected with HIV every year in the United States. In 2011, an estimated 1.2 million people in the United States were living with HIV, including those who were unaware of the infection. Symptoms of HIV infection can vary, but often include weakness, fever, sore throat, nausea, headaches, diarrhea, a white coating on the tongue, weight loss, and swollen lymph glands.

3.2 Modes of Transmission

bloodborne pathogens are transmitted when contaminated blood or body fluids enter the body of another person. In the workplace setting, transmission is most likely to occur through:

- An accidental puncture by a sharp object, such as a needle, broken glass, or other "sharps," contaminated with the pathogen.
- Contact between broken or damaged skin and infected body fluids
- Contact between mucous membranes and infected body fluids.

Unbroken skin forms an impervious barrier against bloodborne pathogens. However, infected blood or body fluids can enter your system through:

- Open sores
- Cuts
- Abrasions
- Acne
- Any sort of damaged or broken skin such as sunburn or blisters

bloodborne pathogens can also be transmitted through the mucous membranes of the eyes, nose, or mouth. For example, a splash of contaminated blood to your eye, nose, or mouth could result in transmission.

There are also many ways that bloodborne pathogens are not transmitted. For example, bloodborne pathogens are not transmitted by:

- Touching an infected person
- Coughing or sneezing
- Using the same equipment, materials, toilets, water fountains or showers as an infected person.

4.0 Methods of Implementation and Control

This section describes the general precautions, engineering controls and PPE at Fitchburg State for employees who may come in contact with blood, blood products, or OPIM. This section also delineates specific safe work practices that shall be followed by every employee who may be exposed to bloodborne pathogens. It is Fitchburg State policy to use engineering controls and work practices whenever feasible to eliminate or minimize employee exposures to bloodborne pathogens. PPE shall be worn when the potential for occupational exposures still exists after engineering controls and proper work practices have been implemented.

4.1 Universal Precautions

The Centers for Disease Control (CDC) have developed a strategy of "universal blood and body fluid precautions" to address concerns of HIV and HBV transmission. Universal precautions stress that all human blood and OPIM should be assumed to be infectious for bloodborne pathogens regardless of the perceived status of the source individual. OPIM include blood products, human cells (including commercially available human cell lines used in research), human tissues, semen, vaginal secretions, breast milk, and any body

fluids that are visibly contaminated by blood or OPIM, or in which contamination with blood or OPIM is unable to be distinguished.

In most occupational settings, universal precautions do not apply to fluids such as saliva, feces, vomit, urine, sweat, tears, and nasal secretions, unless these fluids are contaminated with blood.

4.2 Engineering Controls

Engineering controls include facility design and containment devices that isolate or remove the bloodborne pathogen hazard from the workplace. Each department shall maintain documentation of the engineering controls used in their respective workplaces to prevent bloodborne pathogen exposure. Engineering controls include (but are not limited to):

- Sharps with Engineered Sharps-Injury Protection (SESIP) devices such as self-retracting/self-blunting needles and lancets.
- Ventilation controls
- Use of plasticware instead of glassware when manipulating blood/OPIM samples
- Splash shields
- Resuscitation devices for performing CPR
- Use of proper sharps disposal containers

4.3 Work Practice Controls

Work practices are defined as those procedures that have been developed by Fitchburg State to reduce or eliminate employee exposures to bloodborne pathogens during the execution of their work tasks. Fitchburg State has adopted a set of work practices known as Universal Precautions for all employees and tasks with occupational exposure to blood or OPIM. The principle of Universal Precautions is a conservative approach to preventing the transmission of bloodborne diseases. Simply stated, the concept behind Universal Precautions is that all human blood and body fluids are treated as if they are known to contain HBV, HCV, HIV, or other bloodborne pathogens.

Fitchburg State employees shall use this approach whenever they handle blood, bodily fluids, or OPIM. By using Universal Precautions, employees will avoid all contact with potentially contaminated items by following standard safety precautions, using proper safety controls, and wearing the appropriate PPE.

Specific work practices that utilize the principles of Universal Precautions are detailed in the following sections. For additional information about Universal Precautions, please

refer to "2007 Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings" Siegel JD, Reinhart E, Jackson M, Chiarello, L, and the Healthcare Infection Control Practices Advisory Committee, http://www.cdc.gov/hicpac/pdf/isolation/Isolation2007.p Universal precautions that must be adhered to at Fitchburg State include the following:

4.3.1 Actions Prohibited in Work Area

Eating, drinking, smoking, handling contact lenses and applying cosmetics are forbidden in areas where there is a reasonable possibility of occupational exposure to potentially infectious materials. Food and beverages shall not be kept in refrigerators, freezers, shelves, cabinets, or on bench-tops where blood or OPIM are present. Mouth pipetting or suctioning of blood or OPIM is prohibited.

4.3.2 Basic Hygiene

All procedures involving blood or OPIM shall be performed in such a manner to prevent or minimize splashing, spraying, spattering, and generation of droplets of these substances. Employees must wash their hands immediately after removal of gloves or other PPE (or as soon as feasible).

Upon accidental skin contamination, the area will be washed with copious amounts of soap and water for 15 minutes. If the eye or mucous membranes are accidentally contaminated, they shall

be flushed with water for at least 15 minutes. All accidental exposures shall be immediately reported to the appropriate Department Head or Supervisor.

4.3.3 Hand-Washing Facilities

Fitchburg State makes every attempt to ensure that hand-washing facilities are readily accessible in or near work areas where employees have a potential occupational exposure to blood or OPIM. Employees must wash their hands at these facilities every time they come in contact with blood or OPIM. Where employees are working outdoors or in remote areas of campus where hand-washing facilities are not nearby, the Department Head or Supervisor should ensure that an appropriate antiseptic hand cleanser or antiseptic towelettes are available. Employees must wash their hands with soap and running water as soon as possible after using these antiseptic cleaners.

4.3.4 Communication of Hazards (Labeling)

Communication of the hazards associated with blood or OPIM is extremely important. Fitchburg State provides such hazard information to employees using labels and signs.

The responsible Departments will affix warning labels to containers of regulated waste, refrigerators, and freezers containing blood or OPIM. Labels shall also be affixed to containers used to store, transport, or ship blood or OPIM. Labels shall include the universal biohazard symbol and be fluorescent orange or orange-red, with lettering or symbols in a contrasting color. Labels are also required for equipment that has been contaminated with blood or OPIM.

Red bags or red containers may be substituted for labels. Individual containers placed in a labeled container during storage, transport, shipment, or disposal do not need to be individually labeled.

4.3.5 Contaminated Needles and Other Sharps Handling Procedures

Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed. Shearing or breaking of contaminated needles is forbidden.

Broken glassware and other sharps which may be contaminated should not be picked up directly with the hands. Most gloves available to staff and students do not protect against punctures or cuts. Fitchburg State employees should use mechanical means, such as a dustpan and broom to prevent exposure.

Contaminated, reusable sharps will be placed in appropriate containers immediately after use. These containers shall be puncture-resistant, labeled, fluorescent red or orange, and leak-proof on all sides and bottom.

4.3.6 Handling Specimens of Blood/OPIM

Specimens of blood or OPIM shall be placed in containers that prevent leakage during collection, handling, processing, storage, transport or shipping. Wherever feasible, Fitchburg State encourages the use of plasticware instead of glassware to avoid potential breakage and spills.
These containers shall be closed prior to being stored, transported, or shipped.
Containers for storage, transport or shipping will be labeled in accordance with the OSHA Standard. If outside contamination of the primary container occurs (or if specimens contained within the primary container could puncture that container), the primary container will be placed within a secondary container which prevents leakage during handling, processing, storage, transport, or shipping.
The secondary container shall be puncture-resistant and labeled/color coded under the requirements of the OSHA Standard.

4.3.7 Cleaning and Decontamination Procedures for Laboratory and Medical Equipment

All equipment will be decontaminated after contact with blood or OPIM. Wherever feasible, use of heat for disinfection (e.g., laboratory autoclave) shall be the preferred method. Liquid chemical germicides raise safety concerns and should only be employed where necessary (e.g., heat-sensitive items). Departments are strongly encouraged to consider disposable alternatives where heat treatment is not possible.

4.3.8 Work Environment Cleaning and Disinfection

All work environments that may become contaminated with blood or OPIM, or where research and/or clinical tasks involving blood or OPIM have taken place, will be cleaned and thoroughly wiped with disinfectant after completion of procedures or at the end of each work shift (whichever occurs first). Protective coverings, such as plastic wrap, aluminum foil, or imperviously backed absorbent paper used to cover equipment and surfaces shall be replaced as soon as feasible when they become overly contaminated or at the end of a work shift. All bins, pails, cans, and similar receptacles intended for reuse, which may become contaminated with blood or OPIM, will be routinely inspected, cleaned, and decontaminated. These receptacles also shall be immediately decontaminated whenever they become visibly contaminated. All soiled surfaces should be cleaned prior to disinfection. EPA-approved disinfectants labeled for environmental surfaces should be used, and the manufacturer instructions for use always followed.

4.3.9 Disposal of Contaminated Materials and Waste

The Bloodborne Pathogens Standard defines regulated waste as:

- Liquid or semi-liquid blood or OPIM;
- Contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed;
- Items that are caked with dried blood or OPIM and are capable of releasing these materials during handling;
- Contaminated sharps; and
- Pathological and microbiological wastes containing blood OPIM.

Sharps that are contaminated with blood or OPIM must be discarded immediately after use. Containers for waste sharps must be closable, puncture resistant, leak-proof on all sides and bottom, and labeled and color coded as described above. Sharps containers must also be easily accessible to personnel, maintained upright throughout use, and must be kept closed. Containers should not be overfilled. When a sharps container reaches 75% of its capacity it should be sealed and transported to Health Services for storage and disposal.

Broken glass that is contaminated with blood or OPIM must not be disposed of in the laboratory broken glass container. Contaminated glass must be placed into a sharps

container or other closable, puncture resistant, leak-proof on all sides and bottom, and labeled or color coded as described above.

When contaminated as described above, all other materials must be placed in containers which are closable, constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping, and labeled and color-coded as described above. Suitable containers include commercially available biohazard bags or lined biohazard waste boxes.
Materials such as band aids, bandages, dressings, paper towels, tissues, and other materials that would not release blood or OPIM in a liquid or semi-liquid state if compressed and are not caked with dried blood that would be released during handling do not need to be managed as regulated waste.

Refrigerators and other equipment used to store blood or other biological materials must be properly disinfected prior to disposal or moving to another facility. The following steps should be taken prior to refrigerator removal:

- While wearing PPE, including gloves, wipe down the entire inside of the refrigerator with paper towels soaked in an approved disinfectant solution.
- Discard all contaminated material as biohazard waste.
- Remove the biohazard sticker(s) from the exterior of the refrigerator.
- Remove gloves and wash your hands with soap and water.

4.4 Personal Protective Equipment

Fitchburg State provides, at no cost to the employee, appropriate PPE for personnel who may be exposed to bloodborne pathogens. If blood or OPIM penetrate PPE these items shall be removed immediately (or as soon as feasible). All PPE will be removed prior to leaving the work area.
Laundering, disposal, repair, and replacement of PPE will be done at no cost to the employee.

4.4.1 Gloves

The routine use of gloves is one of the most basic safety procedures used to protect employees from the hazards associated with infectious agents. Departments shall provide gloves and employees shall wear gloves whenever there is an opportunity for hand contact with blood, blood products, mucous membranes, non-intact skin, OPIM or contaminated items and surfaces.

Disposable gloves (such as nitrile) shall be replaced immediately if they are tom, punctured, or their ability to function as a protective barrier is compromised in any way. Disposable gloves may not be washed or decontaminated for re-use. Fitchburg State

discourages the use of latex gloves. Latex may provoke an allergic reaction in sensitive individuals.

Utility gloves (gloves designed for multiple uses) may be decontaminated and re-used if the integrity of the glove is not compromised. To ensure this integrity, prior to use employees will inflate the glove, seal and roll the cuff, and then inspect for any air leaks. Utility gloves must be discarded if they show signs of cracking, peeling, tears, punctures, or exhibit any other signs of deterioration.

4.4.2 Face Protection

Masks, in combination with eye protection devices (i.e., goggles, safety glasses with shields, face shields) shall be worn when splashes, spray, splatter, or droplets of blood or OPIM may be generated and contamination of the eyes, nose, or mouth can be reasonably anticipated.
Employees with acne, dermatitis, or other ailments involving the facial region shall consider wearing face protection while conducting operations where potential exposure may occur.

4.4.3 Resuscitation Masks

Personnel who perform CPR should have resuscitation masks on hand for use in an emergency. Most resuscitation masks are disposable and should be handled as contaminated waste following use. The resuscitation mask allows for effective CPR without mouth-to-mouth contact. Most masks are also fitted with a one-way valve which prevents the flow of materials from victim to rescuer.

4.4.4 Other Protective Apparel

Gowns, aprons, lab coats, or other similar outer garments may be necessary where there is a potential for splashing blood or OPIM to the body. Protective garments prevent skin exposure to splashes and protect clothing. For routine work situations, close-toed shoes must be worn at all times.

5.0 Occupation-Specific Controls and Work Practices

5.1 Health Services

Table 5.1 Health Services potential exposure situations by work task	
Work Task	**Potential Exposure Situation**
Handling patients	**Contact with blood and OPIM.**

Table 5.1 Health Services potential exposure situations by work task	
Handling syringes, needle	**Accidental self-inoculation, needle sticks.**
Working with tools and equipment containing blood or OPIM	**Cuts and pricks from equipment; contact with infectious materials from spills, splashes and routine equipment handling procedures.**
Collecting specimens of blood or OPIM	**Accidental self-injection, spillage of fluids, aerosol droplet contamination.**
Preparing samples of blood or OPIM	**Cutting finger on sharp edge of slide/cover slip. Exposure from non-intact gloves.**
Testing specimens of blood and OPIM	**Accidental self-injection.**
Administration of CPR	**Contact with saliva, open wound of the mouth, aerosol droplets**

Safe Work Practices for Health Services Personnel:

- Wear appropriate gloves when handling sharps.
- Wear protective eyewear or face shields during any procedure that commonly results in the generation of droplets, splashing of blood, or other bodily fluids.
- Wear gowns or aprons during procedures that are likely to result in the splashing of blood or other bodily fluids.
- Wear appropriate gloves, surgical masks, face shields, and shoe covers (if necessary) when performing wound debridement, irrigation, incision, suturing, or drainage.
- Wear gloves and laboratory coats when cleaning and dressing wounds, removing foreign bodies, excising lesions, or performing phlebotomy operations. Gowns and shoe covers may be necessary in some instances.
- Wear gloves and laboratory coats when cleaning medical instruments. Face shields must be worn if splashing/splattering is anticipated.
- Immediately, or as soon as is feasible, remove clothing which becomes contaminated with blood or other bodily fluids. Keep contaminated clothing separate from other clothing until properly laundered.
- If a needle-stick or other instrument-related injury occurs, the needle or instrument involved in the incident must be removed from the sterile field.
- Clean/disinfect examination tables between patients. Clean/disinfect the reception area each day.

5.2 Campus Police

Table 5.2 Campus Police potential exposure situations by work task	
Work Task	**Potential Exposure Situation**
Contact with drug paraphernalia	**Accidental self-inoculation / needle sticks.**
First aid on victims of accidents, violence or those experiencing medical emergencies	**Contact with blood or OPIM.**
Handling uncooperative individuals	**Being bitten, contact with OPIM.**
Contact with knives or other weapons	**Cuts from potentially contaminated items.**
Administration of CPR	**Contact with saliva, open wound of the mouth, aerosol droplets.**
Processing the crime scene during investigations	**Contact with blood or OPIM, potentially contaminated items or surfaces.**

Safe Work Practices for Campus Police:

- Cover all open wounds with bandages prior to reporting for duty.
- Wear gloves whenever touching blood, bodily fluids, mucous membranes, or non-intact skin while conducting operations. Wear gloves when handling items or surfaces obviously contaminated with blood or other bodily fluids.
- Wash hands and other skin surfaces immediately with antiseptic cleanser if contaminated with blood or OPIM. Waterless, antiseptic hand cleaner must be available to staff in a first aid kit for use until the employee can get to a hand washing area.
- Wash hands immediately after the gloves are removed. Flush mucous membranes with water immediately or as soon as possible after an exposure.
- Immediately, or as soon as is feasible, remove uniforms or clothing which become contaminated with blood or other bodily fluids. Keep contaminated clothing separate from other clothing until properly laundered. Tag the laundry bag with a label as specified in section 4.3.4.
- Take precautions to prevent injuries caused by needles, syringes, and other sharp objects. Pay special attention to hands whenever handling needles, syringes, and other sharp objects.
- The Department will provide mouthpieces, resuscitation bags, or other ventilation devices to officers who may reasonably be expected to perform CPR.
- Disinfect areas and equipment that become contaminated with blood or other bodily fluids immediately with an approved disinfectant solution.

- Whenever handling uncooperative individuals, attempt to keep the individual's back to you, minimizing the opportunity to be bitten. Make every effort to obtain additional assistance whenever handling an uncooperative individual.
- Transport prisoners with visible body fluids on their person in separate vehicles from other arrestees and maintained in separate holding areas.
- Remove from service any police equipment that is contaminated and properly decontaminate prior to reuse, servicing, or shipping (e.g., weapon, uniform).

5.3 Environmental Health and Safety

Table 5.3 Environmental Health and Safety potential exposure situations by work task	
Work Task	**Potential Exposure Situation**
Administration of CPR	**Contact with saliva, open wound of the mouth, aerosol droplets.**
Handling affected employees and students	**Contact with blood or OPIM.**

Safe Work Practices for Environmental Health and Safety:

- Wear protective eyewear or face shields and protective clothing during operations that are likely to result in the splashing of blood or other bodily fluids.
- Wear appropriate gloves when handling sharps.
- Mouthpieces, resuscitation bags, or other ventilation devices should be used when performing CPR.

5.4 Building Maintenance, Housing, and Residential Services

Table 5.4 Building Maintenance, Housing, and Residential Services potential exposure situations by work task	
Work Task	**Potential Exposure Situation**
Cleaning sinks, toilets, bathroom fixtures	**Contact with blood and OPIM.**
Clean up of vomit or other OPIM	**Contact with OPIM.**
Removal of waste	**Handling disposed syringe needles and contaminated sharps.**
General site clean-up	**Contact with disposed personal items and OPIM.**

Safe Work Practices for Custodial and Building Maintenance Staff:

- Wear gloves whenever touching blood, bodily fluids, or mucous membranes while conducting operations.
- Wear gloves when handling items or surfaces obviously contaminated with blood or bodily fluids.
- Immediately and thoroughly wash hands and other skin surfaces with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
- Immediately wash hands after gloves are removed.
- Wear gloves and eye protection whenever cleaning toilets, sinks or other facilities.
- Take precautions to prevent injuries caused by needles, syringes and other sharp objects.
- Immediately, or as soon as is feasible, remove clothing which becomes contaminated with blood or other bodily fluids during housekeeping activities. Keep contaminated clothing separate from other clothing until properly laundered.
- Immediately clean areas and equipment that become contaminated with blood or other bodily fluids with the housekeeping disinfectant.
- Saturated clothing or other materials may be disposed of as biohazardous waste or placed in biohazard disposal bags for laundering by trained workers.
- Maintain a plastic liner bag in all feminine hygiene product receptacles.
- Remove waste from feminine hygiene receptacles using gloves. Remove the liner from the receptacle and discard. Feminine hygiene receptacles should be cleaned after each waste removal using an approved disinfectant.
- Do not handle broken glass, sharps, and razors with hands. Use a broom, dustpan, or other mechanical means to pick up and dispose of these items. These items are not considered contaminated unless there is visible blood or OPIM. Due to their physical hazard, they should be disposed of in a sharps container or other puncture-proof container if a sharps container is not readily available.
- Flush piping with excess water (hot water, if available) prior to maintenance of drain piping if possible.
- If drain traps must be removed, disassemble carefully and inspect contents for human blood or OPIM and sharps.

Special notations for plumbers: Most of the body fluids directed into the sanitary system are not regulated under the OSHA bloodborne Pathogens Standard. However, because several diseases
are associated with exposure to sewage, certain employees who are involved in drain plumbing activities must be provided equipment to prevent contact with this type of material. Employees who clear sanitary drain blockages with plungers are not considered occupationally-exposed to human blood or OPIM unless visible blood or other regulated body fluid is present in the work area. Appropriate PPE (gloves, eye protection, boots, etc.) shall be available to any worker clearing a blockage in sanitary drain systems.

5.5 Athletics and Recreation Services

Table 5.5 Athletics and Recreation Services potential exposure situations by work task	
Work Task	**Potential Exposure Situation**
Handling syringes, needles, other sharps	**Accidental self-inoculation, needle sticks.**
Wound care	**Contact with blood, OPIM, non-intact skin.**
Cleaning and maintaining contaminated exercise equipment	**Contact with blood or OPIM.**
First aid on accident victims or those experiencing medical difficulties	**Contact with blood or OPIM.**
Performing CPR or rescue breathing	**Contact with saliva, open mouth sores, OPIM.**
Working with tools and equipment containing blood or OPIM	**Cuts and pricks from equipment; contact with infectious materials from spills, splashes and routine equipment handling procedures.**

Safe Work Practices for Athletic/Personal Trainers and Recreational Activity Attendants:

- Wear gloves whenever touching blood, bodily fluids, mucous membranes, or non-intact skin while conducting operations.
- Wear gloves when handling items or surfaces obviously contaminated with blood or other bodily fluids.
- Immediately and thoroughly wash hands and other skin surfaces with water and antiseptic cleanser if contaminated with blood or other bodily fluids.
- Immediately wash hands after gloves are removed.
- Immediately clean areas and equipment, which become contaminated with blood or other bodily fluids with an approved disinfectant solution.
- Immediately, or as soon as is feasible, remove clothing which becomes contaminated with blood or other bodily fluids. Keep contaminated clothing separate from other clothing until properly laundered.
- All staff responsible for wound care must be provided the appropriate PPE and disposal bags/boxes. Place disposable gloves into a biohazard disposal bag immediately after use. Reusable contaminated PPE must be placed into an appropriately labeled, leak-proof container until decontaminated.
- Use extreme care when handling sharp objects such as needles, razors, and scissors. Needles should not be recapped, bent, broken, or otherwise manipulated

by hand. Disposable sharps must be immediately placed into a puncture-proof sharps container after use. Sharps containers must be puncture-resistant, labeled or color coded, and leakproof on the sides and bottom.

- Athletes may not compete or participate in any training or practice if wounds have not been treated and covered.
- Athletic and recreational personnel with open wounds or sores should avoid all situations where they may come into contact with potentially infectious materials.
- Prior to any intercollegiate athletic competition, a designated representative of Athletics should ensure that the visiting team has biohazard disposal bags and sharps containers for disposal of human blood or OPIM. Following completion of the event, Athletics will coordinate disposal of any bags and containers that were used in accordance with Fitchburg State procedures.
- Employees who provide first aid will use resuscitation masks which permit administration of CPR without direct mouth-to-mouth contact.
- Disinfect contaminated surfaces, instruments and equipment according to the procedures outlined in Section 4.3 above.

5.6 Academic Departments Performing Laboratory Work or Teaching With Blood or OPIM

Table 5.6 Academic departments performing laboratory work or teaching with blood or OPIM potential exposure situations by work task

Work Task	Potential Exposure Situation
Handling syringes, needles, other sharps	Accidental self-inoculation, recapping and bendinq needles after use
Handling vials, containers of blood, or OPIM	Breakage of containers may lead to contact with blood and OPIM.
Using blenders and sonicators	Generation of OPIM droplets
Centrifugation	Splashing blood by opening centrifuge lid before rotor has stopped spinning; unbalanced centrifuge that results in breakage of test tubes, producing aerosols.
Collecting and testing specimens of blood and OPIM	Accidental self-infection via spillage of fluids. Aerosol droplet contamination.
Preparing samples of blood or OPIM for microscopic examination	Cutting finger on sharp edges of slide or cover slip.

Table 5.6 Academic departments performing laboratory work or teaching with blood or OPIM potential exposure situations by work task	
Working at laboratory benches and other areas where potential infectious material are handled	**Contact with blood, OPIM at sites that may or may not be contaminated.**
Working with specialized glassware and other apparatus during experiments	**Breakage of glassware, leakage from lines can lead to contact with OPIM**

Safe Work Practices for Educational and Research Labs:
Follow Universal Precautions at all times. This means treating human materials as if potentially infectious.

- Wear protective eyewear in laboratories at all times when working with blood or OPIM.
- Wear face shields during procedures that commonly result in the generation of droplets, splashing of blood or other bodily fluids.
- Wear laboratory coats when conducting laboratory procedures. Additional protection, such as gowns, shoe covers or aprons, may be required during procedures in which the splashing of blood or other bodily fluids can be reasonably anticipated.
- Wear gloves during all procedures that involve the handling of items containing or contaminated with blood or OPIM, or in areas where there may be locations (such as benches) which could be contaminated with potentially infectious materials.
- If a glove is torn, remove and replace immediately.
- Change gloves and wash hands after completion of specimen processing, and before leaving the laboratory.
- Immediately, or as soon as is feasible, remove clothing which becomes contaminated with blood or other bodily fluids. Keep contaminated clothing separate from other clothing until properly laundered.
- Contain all specimens of blood and bodily fluids or OPIM in a rigid, leak-proof container with a secure lid to prevent leaking during transport.
- Avoid contaminating the outside of specimen collection containers.
- Use biological safety cabinets or hoods whenever procedures are conducted that have a potential for generating droplets (blenders and centrifuges).
- Use mechanical pipetting devices for manipulating all liquids in the laboratory. Mouth pipetting or suctioning is forbidden.
- Decontaminate laboratory work surfaces with an appropriate disinfectant after a spill of blood or OPIM and when work activities are completed.
- Immediately after completion of laboratory procedures clean all equipment with a disinfectant.

- Clean and decontaminate scientific equipment that has been contaminated with blood or OPIM before being repaired in the laboratory or transported to a repair facility.
- Wash hands after completing laboratory activities and remove protective clothing before leaving the laboratory.

6.0 Hepatitis B Vaccination Program

Hepatitis B vaccinations are an important part of the Fitchburg State Exposure Control Plan. The Hepatitis B vaccine and vaccination series are available to employees conducting tasks with occupational exposure risks from the outset of their employment (including Designated First Aid Responders). These vaccinations are provided at no cost and are provided by or under the supervision of a licensed physician (or another licensed health care professional).

6.1 Vaccination Series

The vaccination is a noninfectious, genetically engineered (recombinant) vaccine administered as three injections in the arm. The second injection is usually given one month after the first, and the third is usually given at about six months. To ensure adequate immunity, it is important for employees to receive all three injections. Some occupational health providers may recommend a titer about one to two months after the three-dose vaccination series in order to test for antibodies to Hepatitis B surface antigen. Where a titer is given at this time period, employees who do not respond to the primary vaccination series will be re-vaccinated with a second three-dose series and retested. Non-responders will be medically evaluated.

Currently, booster doses of the vaccine are not considered necessary. If routine booster doses of HBV are recommended by the US Public Health Service, the booster shots will be made available to affected Fitchburg State faculty and staff. These vaccinations are provided at no cost to the employee.

All staff identified in this Plan must sign a statement indicating either previous vaccination, acceptance, or declination of the HBV. Staff must sign the HBV acceptance/declination form located in Appendix B of this Plan. This form is taken from a mandatory appendix to the OSHA standard: 29 CFR 1910.1030, Appendix A.

6.2 Declination of the vaccine

Individuals may decline the hepatitis B vaccination, and may request to be vaccinated at a later date. However, employees who choose not to receive the vaccine must sign a

declination statement that will remain in the individual's file. If an individual decides to participate in the immunization program at a later date, Fitchburg State will provide the vaccine at no cost to the employee if he/she still has occupational exposure to bloodborne pathogens.

7.0 Exposure Incident and Emergency Procedures

An exposure incident is defined as a specific mucous membrane, broken skin, or puncture contact with blood or OPIM that results from the performance of a staff member or student's duties. If a staff member or student is exposed to blood or OPIM the staff member or student must have an immediate confidential medical evaluation.

7.1 Initial Response to Personnel Exposure

If an individual has an exposure incident, immediately conduct first aid (clean the wound with soap and water, flush eyes or other mucous membrane with water for 15 minutes). The Department manager or supervisor is responsible for ensuring the individual is provided with immediate medical evaluation and follow-up.

The individual and his/her supervisor must gather, document, and provide to the healthcare professional with a copy of the Fitchburg State Exposure Control Plan, and sufficient information so that a determination can be made of the type of prophylaxis and medical treatment that is needed. This information must include:

- A description of the employee's duties as they relate to the exposure incident;
- Documentation of the route of exposure and circumstances of the incident (e.g., personal protective equipment worn);
- Results of blood testing for the source individual (if available);
- All medical records relevant to the proper treatment of the individual, including vaccination status.

If an exposure incident occurs, the staff member or student should report to HealthAlliance (Take Charge). The information gathered about the exposure incident must be sent to the hospital along with the exposed individual. When a source individual has been identified and given consent for blood or OPIM testing, the source individual should accompany the exposed employee to the emergency room. If the source individual cannot go to the emergency room at that time, the source individual will be contacted for follow-up testing by the healthcare professional using the contact information provided by the Supervisor.

7.2 Post-Exposure Evaluation and Treatment

The individual will be offered post-exposure blood testing, prophylaxis, and counseling by the medical provider in accordance with the current recommendations of the US Public Health Service. These recommendations are currently outlined in the Center for Disease Control supplement: Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Post-exposure

Prophylaxis, MMWR June 29, 2005 / 54(RR09);1-17. The medical evaluation and follow-up may involve:

- Evaluation of the incident, including documentation of the route of exposure, the HBV and HIV status of the source individual, if known, and the circumstances under which the exposure occurred;
- Collection and testing of exposed employee's blood for determination of HIV and HBV status;
- Collection and testing of source individual's blood if consent is given and HIV and HBV status is not already known;
- Employee notification of results of all testing;
- Counseling;
- Post-exposure prophylaxis when medically indicated;
- Evaluation of any reported illness related to exposure incident; and
- Additional HIV testing offered to the affected employee six weeks post-exposure and periodically thereafter.

All post exposure evaluations will be provided at no cost to the exposed individual or source individual. The medical expenses incurred during post-exposure evaluation of employees will be submitted to the Fitchburg State worker's compensation insurance carrier. The medical expenses incurred during post-exposure evaluation of unpaid students shall be paid through the student's family or individual insurance policy, which all enrolled students are required to maintain and document per the requirements of Fitchburg State.

7.3 Healthcare Professional Written Opinion

The health care professional shall submit to Fitchburg State a written opinion within 15 days of performing the post-exposure evaluation. A minimum of three copies of the written opinion will be sent to Fitchburg State; one to be directed to the Environmental Health and Safety Officer, one copy to the Fitchburg State Worker's Compensation Coordinator, and one copy to the Department Manager.

The written opinion will contain only the following information:

- Whether the Hepatitis B vaccine is indicated; if the employee has received the vaccine; and/or evaluation following an exposure incident.
- That the employee has been informed of the results of the evaluation, and
- That the employee has been told about any medical conditions resulting from exposure to blood or OPIM that require further evaluation or treatment.

All other findings or diagnoses shall remain confidential and shall not be included in the written report submitted to Fitchburg State.

7.4 Exposure Incident Investigation

Fitchburg State has the responsibility to investigate all incidents resulting in possible exposure to blood or OPIM. Individuals having an exposure incident shall report the incident to a supervisor immediately. A report of injury/illness must be completed and submitted to the Fitchburg State Worker's Compensation Coordinator as soon as is feasible but no greater than two (2) days post exposure. The injury/illness report form can be obtained from Human Resources. Instructions for filling out and submitting the form are included.

Exposure incidents are typically investigated by the Department manager and Environmental Health and Safety Officer. If warranted, additional affected parties may participate in the investigation (including but not limited to the Fitchburg State Worker's Compensation Coordinator, Campus Police, or Fitchburg State General Counsel). The investigation will review circumstances leading to exposure, including, but not limited to:

- Engineering controls in use at the time
- Work practices followed
- A description of the device being used (where applicable)
- Protective equipment or clothing that was used at the time of the exposure incident (gloves, eye shields, etc.)
- Location of the incident (laboratory, clinic, etc.)
- Procedure being performed when the incident occurred
- The affected employee's record of training

If, upon incident investigation, faulty procedures or improper controls are determined causative, the Fitchburg State Bloodborne Pathogens Exposure Control Plan will be updated at that time.

8.0 Special Procedures for Departments With Collateral Duty Exposure

Collateral duty exposure refers to exposure to blood or OPIM during first aid activities rendered by an employee whose primary job assignment is not the rendering of first aid or other medical assistance. Individuals with collateral duty exposure are typically responding to injuries resulting from workplace incidents, generally at the location where the incident occurred. These individuals may occasionally be called upon to clean up a minor blood spill or clean a tool after a workplace injury, but are not designated first-aid responders. Departments with employees or students having collateral duty exposure to bloodborne pathogens are not required to provide such persons with pre-exposure Hepatitis B vaccinations provided that the Departments strictly adhere to the requirements of this section. These employees are still subject to all other requirements of this Plan, including safe work procedures and training requirements.

Specific procedures apply whenever individuals with collateral duty exposure encounter blood. Responsibility for implementing the following procedures lies primarily with the immediate supervisor and the individual.

Procedures:

- Any employee with collateral duty exposure who encounters blood or bodily fluids must report the encounter to his/her supervisor immediately but no later than the end of the work shift, even if they do not feel that an Exposure Incident has occurred.
- The supervisor must make a determination as to whether or not an Exposure Incident has occurred.
- If an Exposure Incident has occurred the supervisor shall direct the employee for emergency care as outlined in Section 7 above.
- If an Exposure Incident has occurred the supervisor or department coordinator IS REQUIRED to arrange for the individual to have a Hepatitis B vaccine within 24 hours of the incident. The exposed individual may decline the vaccine. Refer to Section 6 above for instructions on arranging for Hepatitis B vaccines.

9.0 Employee Training Programs

Fitchburg State provides all potentially exposed employees with initial and annual refresher training at no cost to the employee and during working hours. The initial training will be conducted prior to assignment to tasks where an occupational exposure may occur. Training will include information on the following topics:

- An accessible copy of the regulatory text of this standard and an explanation of its contents;

- A general explanation of the epidemiology and symptoms of bloodborne diseases;
- An explanation of the modes of transmission of bloodborne pathogens;
- An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;
- An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;
- An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;
- Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;
- An explanation of the basis for selection of personal protective equipment;
- Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;
- Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;
- An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;
- Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;
- An explanation of the signs and labels and/or color coding; and
- An opportunity for interactive questions and answers with the person conducting the training session.

If changes in procedures or tasks affect the employee's occupational exposure, additional training may be needed prior to the annual refresher. Such additional training can be limited to addressing the new or changed exposures. Departments are strongly encouraged to arrange for training and refresher training for all students who incur risk of exposure because of their participation in their academic program or other University-sponsored activity.

10.0 Recordkeeping

Fitchburg State maintains the following records related to this bloodborne pathogens Exposure Control Plan:

- Hepatitis B vaccination status
- Medical records for each employee with occupational exposure
- Sharps injury log

- Training records
- Program review documentation

10.1 Hepatitis B Vaccination Status

For each employee with occupational exposure, records are required to demonstrate that the vaccination series was provided. In addition, those employees who decline the vaccination must sign a copy of the declination form provided as Appendix B of this Plan. This documentation will be maintained as part of the employee's medical record. The form provided in Appendix C can be used as a tool for tracking the completion of the Hepatitis B vaccinations.

10.2 Medical Records

For each employee with occupational exposure to bloodborne pathogens, the individual's medical record must include the following:

- The name and social security number of the employee;
- 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 the vaccination;
- A copy of all results of examinations, medical testing, and follow-up procedures provided in the event of an exposure incident;
- The employer's copy of the healthcare professional's written opinion;
- A copy of the information provided to the healthcare professional.

These employee medical records must be kept confidential and are not to be disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by the OSHA bloodborne Pathogens standard or as may otherwise be required by law.

These records are maintained by Human Resources for at least the duration of employment plus 30 years in accordance with OSHA 29 CFR 1910.1020.

10.3 Sharps Injury Log

Under the OSHA BBP Standard, a log of occupational sharps injuries must be kept by employers. This requirement can be met by 1) recording the injuries in the OSHA 300 log provided that sharps injuries are recorded in a way that makes it easy to separate them out from other occupational injuries and 2) recording the type and brand of device that caused the injury in the log entry. Employees should report any injuries to Human Resources.

10.4 Training Records

The Environmental Health and Safety Officer maintains a centralized record of bloodborne pathogens training for the entire campus. Departments who perform their own training are responsible for providing records of staff training to the Environmental Health and Safety Officer in a timely fashion.

10.5 Program Review Documentation

The annual review of the bloodborne pathogen program will be documented using the form provided in Appendix D. Documentation should include: the employees involved in the review, consideration of any new technology or safer devices, and any updates or revisions made to the program.

Appendix A - Glossary of Terms

Blood means human or non-human primate blood, blood components, and blood-based products.

Bloodborne Pathogens means pathogenic microorganisms that are present in human or non-human primate blood and can cause disease in humans. Examples include, but are not limited to, hepatitis B virus (HBV), and human immunodeficiency virus (HIV).

Clinical Laboratory means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Contaminated Laundry means laundry that has been soiled with blood or other potentially infectious materials or may contain sharps.

Contaminated Sharps means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, and broken capillary tubes.

Decontamination means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Engineering Controls means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

Exposure Incident means a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of job duties.

Handwashing Facilities means a facility providing an adequate supply of running potable water, soap and single use towels or hot air drying machines.

Licensed Healthcare Professional is a person whose legally permitted scope of practice allows him or her to independently perform the activities required for Hepatitis B vaccination, post-exposure evaluation, and follow-up.

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

Needleless systems means a device that does not use needles for: (1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (2) The administration of medication or fluids; or (3) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

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 job duties.

Other Potentially Infectious Materials means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardia! 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; (4) All primary human and non-human primate cell explants from tissues and subsequent in vitro passages of human or primate tissue explant cultures, unless characterized by documented, reasonable laboratory testing to be free of HIV, HBV, HCV, and other bloodborne pathogens.

Parenteral means piercing mucous membranes or the skin barrier through such events as needlesticks, human/non-human primate bites, cuts, and abrasions.

Personal Protective Equipment (PPE) is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Production Facility means a facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

Regulated Waste means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

Research Laboratory means a laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

Sharps with engineered sharps injury protections means a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

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

Sterilize means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions refers to a method of infection control in which all human blood and other potentially infectious materials are treated as if known to be infectious for HIV and HBV. It does not apply to feces, nasal secretions, sputum, sweat, tears, urine or vomitus unless they contain visible blood.

Work Practice Controls means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

Appendix B - Bloodborne Pathogen Standard

[from: OSHA 29 CFR 1910. Occupational Safety and Health Standards. Code of Federal Regulations. Title 29, Part 1910, Section 1030, Bloodborne Pathogens. Washington, DC: U.S. Occupational Safety and Health Administration.]

(a) *Scope and Application.* This section applies to all occupational exposure to blood or other potentially infectious materials as defined by paragraph (b) of this section.

(b) *Definitions.* For purposes of this section, the following shall apply:

Assistant Secretary means the Assistant Secretary of Labor for Occupational Safety and Health, or designated representative.

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

Bloodborne Pathogens means pathogenic microorganisms that are present in human blood and can cause disease in humans. These pathogens include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).

Clinical Laboratory means a workplace where diagnostic or other screening procedures are performed on blood or other potentially infectious materials.

Contaminated means the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface.

Contaminated Laundry means laundry which has been soiled with blood or other potentially infectious materials or may contain sharps.

Contaminated Sharps means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires.

Decontamination means the use of physical or chemical means to remove, inactivate, or destroy bloodborne pathogens on a surface or item to the point where they are no longer capable of transmitting infectious particles and the surface or item is rendered safe for handling, use, or disposal.

Director means the Director of the National Institute for Occupational Safety and Health, U.S. Department of Health and Human Services, or designated representative.

Engineering controls means controls (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps with engineered sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace.

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

Handwashing facilities means a facility providing an adequate supply of running potable water, soap, and single-use towels or air-drying machines.

Licensed Healthcare Professional is a person whose legally permitted scope of practice allows him or her to independently perform the activities required by paragraph (f) Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up.

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

Needleless systems means a device that does not use needles for:

(1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established;

(2) The administration of medication or fluids; or

(3) Any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

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.

Other Potentially Infectious Materials means

(1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any 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); and

(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.

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

Personal Protective Equipment is specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Production Facility means a facility engaged in industrial-scale, large-volume or high concentration production of HIV or HBV.

Regulated Waste means liquid or semi-liquid blood or other potentially infectious materials; contaminated items that would release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed; items that are caked with dried blood or other potentially infectious materials and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or other potentially infectious materials.

Research Laboratory means a laboratory producing or using research-laboratory-scale amounts of HIV or HBV. Research laboratories may produce high concentrations of HIV or HBV but not in the volume found in production facilities.

Sharps with engineered sharps injury protections means a nonneedle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

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

Sterilize means the use of a physical or chemical procedure to destroy all microbial life including highly resistant bacterial endospores.

Universal Precautions is an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens.

Work Practice Controls means controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

(c) *Exposure control* —(1) *Exposure Control Plan.* (i) Each employer having an employee(s) with occupational exposure as defined by paragraph (b) of this section shall establish a written Exposure Control Plan designed to eliminate or minimize employee exposure.

(ii) The Exposure Control Plan shall contain at least the following elements:

(A) The exposure determination required by paragraph (c)(2),

(B) The schedule and method of implementation for paragraphs (d) Methods of Compliance, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, (g) Communication of Hazards to Employees, and (h) Recordkeeping, of this standard, and

(C) The procedure for the evaluation of circumstances surrounding exposure incidents as required by paragraph (f)(3)(i) of this standard.

(iii) Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.20(e).

(iv) The Exposure Control Plan shall be reviewed and updated at least annually and whenever necessary to reflect new or modified tasks and procedures which affect occupational exposure and to reflect new or revised employee positions with occupational exposure. The review and update of such plans shall also:

(A) Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and

(B) Document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

(v) An employer, who is required to establish an Exposure Control Plan shall solicit input from non-managerial employees responsible for direct patient care who are potentially exposed to injuries from contaminated sharps in the identification, evaluation, and selection of effective engineering and work practice controls and shall document the solicitation in the Exposure Control Plan.

(vi) The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.

(2) *Exposure determination.* (i) Each employer who has an employee(s) with occupational exposure as defined by paragraph (b) of this section shall prepare an exposure determination. This exposure determination shall contain the following:

(A) A list of all job classifications in which all employees in those job classifications have occupational exposure;

(B) A list of job classifications in which some employees have occupational exposure, and

(C) A list of all tasks and procedures or groups of closely related tasks and procedures in which occupational exposure occurs and that are performed by employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

(ii) This exposure determination shall be made without regard to the use of personal protective equipment.

(d) *Methods of compliance* —(1) *General.* Universal precautions shall be observed to prevent contact with blood or other potentially infectious materials. Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

(2) *Engineering and work practice controls.* (i) Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be used.

(ii) Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

(iii) Employers shall provide handwashing facilities which are readily accessible to employees.

(iv) When provision of handwashing facilities is not feasible, the employer 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.

(v) Employers shall ensure that employees wash their hands immediately or as soon as feasible after removal of gloves or other personal protective equipment.

(vi) Employers shall ensure that employees wash 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 other potentially infectious materials.

(vii) Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed except as noted in paragraphs (d)(2)(vii)(A) and (d)(2)(vii)(B) below. Shearing or breaking of contaminated needles is prohibited.

(A) Contaminated needles and other contaminated sharps shall not be bent, recapped or removed unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure.

(B) Such bending, recapping or needle removal must be accomplished through the use of a mechanical device or a one-handed technique.

(viii) Immediately or as soon as possible after use, contaminated reusable sharps shall be placed in appropriate containers until properly reprocessed. These containers shall be:

(A) Puncture resistant;

(B) Labeled or color-coded in accordance with this standard;

(C) Leakproof on the sides and bottom; and

(D) In accordance with the requirements set forth in paragraph (d)(4)(ii)(E) for reusable sharps.

(ix) 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.

(x) Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or benchtops where blood or other potentially infectious materials are present.

(xi) All procedures involving blood or other potentially infectious materials shall be performed in such a manner as to minimize splashing, spraying, spattering, and generation of droplets of these substances.

(xii) Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

(xiii) Specimens of blood or other potentially infectious materials shall be placed in a container which prevents leakage during collection, handling, processing, storage, transport, or shipping.

(A) The container for storage, transport, or shipping shall be labeled or color-coded according to paragraph (g)(1)(i) and closed prior to being stored, transported, or shipped. When a facility utilizes Universal Precautions in the handling of all specimens, the

labeling/color-coding of specimens is not necessary provided containers are recognizable as containing specimens. This exemption only applies while such specimens/containers remain within the facility. Labeling or color-coding in accordance with paragraph (g)(1)(i) is required when such specimens/containers leave the facility.

(B) If outside contamination of the primary container occurs, the primary container shall be placed within a second container which prevents leakage during handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

(C) If the specimen could puncture the primary container, the primary container shall be placed within a secondary container which is puncture-resistant in addition to the above characteristics.

(xiv) Equipment which may become contaminated with blood or other potentially infectious materials shall be examined prior to servicing or shipping and shall be decontaminated as necessary, unless the employer can demonstrate that decontamination of such equipment or portions of such equipment is not feasible.

(A) A readily observable label in accordance with paragraph (g)(1)(i)(H) shall be attached to the equipment stating which portions remain contaminated.

(B) The employer shall ensure that this information is 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.

(3) *Personal protective equipment* —(i) *Provision.* When there is occupational exposure, the employer shall provide, at no cost to the employee, appropriate personal protective equipment such as, but not limited to, gloves, gowns, laboratory coats, face shields or masks and eye protection, and mouthpieces, resuscitation bags, pocket masks, or other ventilation devices. Personal protective equipment will be considered “appropriate” only if it does not permit blood or other potentially infectious materials 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 which the protective equipment will be used.

(ii) *Use.* The employer shall ensure that the employee uses appropriate personal protective equipment unless the employer shows that the employee temporarily and briefly declined to use personal protective equipment when, under rare and extraordinary circumstances, it was the employee's professional judgment that in the specific instance its use would have prevented the delivery of health care or public safety services or would have posed an increased hazard to the safety of the worker or co-worker. When the employee makes this judgement, the circumstances shall be investigated and

documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

(iii) *Accessibility.* The employer shall ensure that 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.

(iv) *Cleaning, Laundering, and Disposal.* The employer shall clean, launder, and dispose of personal protective equipment required by paragraphs (d) and (e) of this standard, at no cost to the employee.

(v) *Repair and Replacement.* The employer shall repair or replace personal protective equipment as needed to maintain its effectiveness, at no cost to the employee.

(vi) If a garment(s) is penetrated by blood or other potentially infectious materials, the garment(s) shall be removed immediately or as soon as feasible.

(vii) All personal protective equipment shall be removed prior to leaving the work area.

(viii) When personal protective equipment is removed it shall be placed in an appropriately designated area or container for storage, washing, decontamination or disposal.

(ix) *Gloves.* Gloves shall be worn when it can be reasonably anticipated that the employee may have hand contact with blood, other potentially infectious materials, mucous membranes, and non-intact skin; when performing vascular access procedures except as specified in paragraph (d)(3)(ix)(D); and when handling or touching contaminated items or surfaces.

(A) 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.

(B) Disposable (single use) gloves shall not be washed or decontaminated for re-use.

(C) 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.

(D) If an employer in a volunteer blood donation center judges that routine gloving for all phlebotomies is not necessary then the employer shall:

(*1*) Periodically reevaluate this policy;

(*2*) Make gloves available to all employees who wish to use them for phlebotomy;

(*3*) Not discourage the use of gloves for phlebotomy; and

(*4*) Require that gloves be used for phlebotomy in the following circumstances:

(*i*) When the employee has cuts, scratches, or other breaks in his or her skin;

(*ii*) When the employee judges that hand contamination with blood may occur, for example, when performing phlebotomy on an uncooperative source individual; and

(*iii*) When the employee is receiving training in phlebotomy.

(x) *Masks, Eye Protection, and Face Shields.* 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, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can be reasonably anticipated.

(xi) *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. The type and characteristics will depend upon the task and degree of exposure anticipated.

(xii) Surgical caps or hoods and/or shoe covers or boots shall be worn in instances when gross contamination can reasonably be anticipated (e.g., autopsies, orthopaedic surgery).

(4) *Housekeeping* —(i) *General.* Employers shall ensure that the worksite is maintained in a clean and sanitary condition. The employer shall determine and implement an appropriate written schedule for cleaning and 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.

(ii) All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

(A) Contaminated work surfaces shall be decontaminated with an appropriate disinfectant after completion of procedures; immediately or as soon as feasible when surfaces are overtly contaminated or after any spill of blood or other potentially infectious materials; and at the end of the work shift if the surface may have become contaminated since the last cleaning.

(B) 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 workshift if they may have become contaminated during the shift.

(C) All bins, pails, cans, and similar receptacles intended for reuse which have a reasonable likelihood for becoming contaminated with blood or other potentially infectious materials shall be inspected and decontaminated on a regularly scheduled basis and cleaned and decontaminated immediately or as soon as feasible upon visible contamination.

(D) 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 dust pan, tongs, or forceps.

(E) 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.

(iii) *Regulated Waste* —(A) *Contaminated Sharps Discarding and Containment.* (*1*) Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

(*i*) Closable;

(*ii*) Puncture resistant;

(*iii*) Leakproof on sides and bottom; and

(*iv*) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard.

(*2*) During use, containers for contaminated sharps shall be:

(*i*) 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);

(*ii*) Maintained upright throughout use; and

(*iii*) Replaced routinely and not be allowed to overfill.

(*3*) When moving containers of contaminated sharps from the area of use, the containers shall be:

(*i*) Closed immediately prior to removal or replacement to prevent spillage or protrusion of contents during handling, storage, transport, or shipping;

(*ii*) Placed in a secondary container if leakage is possible. The second container shall be:

(*A*) Closable;

(*B*) Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and

(*C*) Labeled or color-coded according to paragraph (g)(1)(i) of this standard.

(*4*) Reusable containers shall not be opened, emptied, or cleaned manually or in any other manner which would expose employees to the risk of percutaneous injury.

(B) *Other Regulated Waste Containment* —(*1*) Regulated waste shall be placed in containers which are:

(*i*) Closable;

(*ii*) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

(*iii*) Labeled or color-coded in accordance with paragraph (g)(1)(i) this standard; and

(*iv*) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(*2*) If outside contamination of the regulated waste container occurs, it shall be placed in a second container. The second container shall be:

(*i*) Closable;

(*ii*) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

(*iii*) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard; and

(*iv*) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(C) Disposal of all regulated waste shall be in accordance with applicable regulations of the United States, States and Territories, and political subdivisions of States and Territories.

(iv) *Laundry.* (A) Contaminated laundry shall be handled as little as possible with a minimum of agitation. (*1*) Contaminated laundry shall be bagged or containerized at the location where it was used and shall not be sorted or rinsed in the location of use.

(*2*) Contaminated laundry shall be placed and transported in bags or containers labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard. When a facility utilizes Universal Precautions in the handling of all soiled laundry, alternative labeling or color-coding is sufficient if it permits all employees to recognize the containers as requiring compliance with Universal Precautions.

(*3*) Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.

(B) The employer shall ensure that employees who have contact with contaminated laundry wear protective gloves and other appropriate personal protective equipment.

(C) When a facility ships contaminated laundry off-site to a second facility which does not utilize Universal Precautions in the handling of all laundry, the facility generating the contaminated laundry must place such laundry in bags or containers which are labeled or color-coded in accordance with paragraph (g)(1)(i).

(e) *HIV and HBV Research Laboratories and Production Facilities.* (1) This paragraph applies to research laboratories and production facilities engaged in the culture, production, concentration, experimentation, and manipulation of HIV and HBV. It does not apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissues, or organs. These requirements apply in addition to the other requirements of the standard.

(2) Research laboratories and production facilities shall meet the following criteria:

(i) *Standard microbiological practices.* All regulated waste shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

(ii) *Special practices.* (A) Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

(B) Contaminated materials that are to be decontaminated at a site away from the work area shall be placed in a durable, leakproof, labeled or color-coded container that is closed before being removed from the work area.

(C) Access to the work area shall be limited to authorized persons. Written policies and procedures shall be established whereby only persons who have been advised of the potential biohazard, who meet any specific entry requirements, and who comply with all entry and exit procedures shall be allowed to enter the work areas and animal rooms.

(D) When other potentially infectious materials or infected animals are present in the work area or containment module, a hazard warning sign incorporating the universal biohazard symbol shall be posted on all access doors. The hazard warning sign shall comply with paragraph (g)(1)(ii) of this standard.

(E) All activities involving other potentially infectious materials shall be conducted in biological safety cabinets or other physical-containment devices within the containment module. No work with these other potentially infectious materials shall be conducted on the open bench.

(F) Laboratory coats, gowns, smocks, uniforms, or other appropriate protective clothing shall be used in the work area and animal rooms. Protective clothing shall not be worn outside of the work area and shall be decontaminated before being laundered.

(G) Special care shall be taken to avoid skin contact with other potentially infectious materials. Gloves shall be worn when handling infected animals and when making hand contact with other potentially infectious materials is unavoidable.

(H) Before disposal all waste from work areas and from animal rooms shall either be incinerated or decontaminated by a method such as autoclaving known to effectively destroy bloodborne pathogens.

(I) Vacuum lines shall be protected with liquid disinfectant traps and high-efficiency particulate air (HEPA) filters or filters of equivalent or superior efficiency and which are checked routinely and maintained or replaced as necessary.

(J) Hypodermic needles and syringes shall be used only for parenteral injection and aspiration of fluids from laboratory animals and diaphragm bottles. Only needle-locking syringes or disposable syringe-needle units (*i.e.*, the needle is integral to the syringe) shall be used for the injection or aspiration of other potentially infectious materials. Extreme caution shall be used when handling needles and syringes. A needle shall not be bent, sheared, replaced in the sheath or guard, or removed from the syringe following use. The needle and syringe shall be promptly placed in a puncture-resistant container and autoclaved or decontaminated before reuse or disposal.

(K) All spills shall be immediately contained and cleaned up by appropriate professional staff or others properly trained and equipped to work with potentially concentrated infectious materials.

(L) A spill or accident that results in an exposure incident shall be immediately reported to the laboratory director or other responsible person.

(M) A biosafety manual shall be prepared or adopted and periodically reviewed and updated at least annually or more often if necessary. Personnel shall be advised of

potential hazards, shall be required to read instructions on practices and procedures, and shall be required to follow them.

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

(B) Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

(3) HIV and HBV research laboratories shall meet the following criteria:

(i) Each laboratory shall contain a facility for hand washing and an eye wash facility which is readily available within the work area.

(ii) An autoclave for decontamination of regulated waste shall be available.

(4) HIV and HBV production facilities shall meet the following criteria:

(i) The work areas shall be separated from areas that are open to unrestricted traffic flow within the building. Passage through two sets of doors shall be the basic requirement for entry into the work area from access corridors or other contiguous areas. Physical separation of the high-containment work area from access corridors or other areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.

(ii) The surfaces of doors, walls, floors and ceilings in the work area shall be water resistant so that they can be easily cleaned. Penetrations in these surfaces shall be sealed or capable of being sealed to facilitate decontamination.

(iii) Each work area shall contain a sink for washing hands and a readily available eye wash facility. The sink shall be foot, elbow, or automatically operated and shall be located near the exit door of the work area.

(iv) Access doors to the work area or containment module shall be self-closing.

(v) An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.

(vi) A ducted exhaust-air ventilation system shall be provided. This system shall create directional airflow that draws air into the work area through the entry area. The exhaust

air shall not be recirculated to any other area of the building, shall be discharged to the outside, and shall be dispersed away from occupied areas and air intakes. The proper direction of the airflow shall be verified (*i.e.*, into the work area).

(5) *Training Requirements.* Additional training requirements for employees in HIV and HBV research laboratories and HIV and HBV production facilities are specified in paragraph (g)(2)(ix).

(f) *Hepatitis B vaccination and post-exposure evaluation and follow-up* —(1) *General.* (i) The employer shall make available the hepatitis B vaccine and vaccination series to all employees who have occupational exposure, and post-exposure evaluation and follow-up to all employees who have had an exposure incident.

(ii) The employer shall ensure that all medical evaluations and procedures including the hepatitis B vaccine and vaccination series and post-exposure evaluation and follow-up, including prophylaxis, are:

(A) Made available at no cost to the employee;

(B) Made available to the employee at a reasonable time and place;

(C) Performed by or under the supervision of a licensed physician or by or under the supervision of another licensed healthcare professional; and

(D) Provided according to recommendations of the U.S. Public Health Service current at the time these evaluations and procedures take place, except as specified by this paragraph (f).

(iii) The employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

(2) *Hepatitis B Vaccination.* (i) Hepatitis B vaccination shall be made available after the employee has received the training required in paragraph (g)(2)(vii)(I) and within 10 working days of initial assignment 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.

(ii) The employer shall not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.

(iii) 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.

(iv) The employer shall assure that employees who decline to accept hepatitis B vaccination offered by the employer sign the statement in appendix A.

(v) 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 in accordance with section (f)(1)(ii).

(3) *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 at least the following elements:

(i) Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;

(ii) Identification and documentation of the source individual, unless the employer can establish that identification is infeasible or prohibited by state or local law;

(A) The source individual's blood shall be tested as soon as feasible and after consent is obtained in order to determine HBV and HIV infectivity. If consent is not obtained, the employer shall 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, shall be tested and the results documented.

(B) When the source individual is already known to be infected with HBV or HIV, testing for the source individual's known HBV or HIV status need not be repeated.

(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.

(iii) Collection and testing of blood for HBV and HIV serological status;

(A) The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.

(B) 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.

(iv) Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;

(v) Counseling; and

(vi) Evaluation of reported illnesses.

(4) *Information Provided to the Healthcare Professional.* (i) The employer shall ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation.

(ii) The employer shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:

(A) A copy of this regulation;

(B) A description of the exposed employee's duties as they relate to the exposure incident;

(C) Documentation of the route(s) of exposure and circumstances under which exposure occurred;

(D) Results of the source individual's blood testing, if available; and

(E) All medical records relevant to the appropriate treatment of the employee including vaccination status which are the employer's responsibility to maintain.

(5) *Healthcare Professional's Written Opinion.* The employer shall obtain and provide the employee with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.

(i) The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to whether Hepatitis B vaccination is indicated for an employee, and if the employee has received such vaccination.

(ii) The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

(A) That the employee has been informed of the results of the evaluation; and

(B) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment. (iii) All other findings or diagnoses shall remain confidential and shall not be included in the written report.

(6) *Medical recordkeeping.* Medical records required by this standard shall be maintained in accordance with paragraph (h)(1) of this section.

(g) *Communication of hazards to employees* —(1) *Labels and signs* —(i) *Labels.* (A) Warning labels shall be affixed to containers of regulated waste, refrigerators and

freezers containing blood or other potentially infectious material; and other containers used to store, transport or ship blood or other potentially infectious materials, except as provided in paragraph (g)(1)(i)(E), (F) and (G).

(B) Labels required by this section shall include the following legend:

(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

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

(E) Red bags or red containers may be substituted for labels.

(F) 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 are exempted from the labeling requirements of paragraph (g).

(G) Individual containers of blood or other potentially infectious materials that are placed in a labeled container during storage, transport, shipment or disposal are exempted from the labeling requirement.

(H) Labels required for contaminated equipment shall be in accordance with this paragraph and shall also state which portions of the equipment remain contaminated.

(I) Regulated waste that has been decontaminated need not be labeled or color-coded.

(ii) *Signs.* (A) The employer shall post signs at the entrance to work areas specified in paragraph (e), HIV and HBV Research Laboratory and Production Facilities, which shall bear the following legend:

(Name of the Infectious Agent)

(Special requirements for entering the area)

(Name, telephone number of the laboratory director or other responsible person.)

(B) These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color.

(2) *Information and Training.* (i) The employer shall train each employee with occupational exposure in accordance with the requirements of this section. Such training must be provided at no cost to the employee and during working hours. The employer shall institute a training program and ensure employee participation in the program.

(ii) Training shall be provided as follows:

(A) At the time of initial assignment to tasks where occupational exposure may take place;

(B) At least annually thereafter.

(iii) [Reserved]

(iv) Annual training for all employees shall be provided within one year of their previous training.

(v) Employers shall provide additional training when changes such as 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.

(vi) Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

(vii) The training program shall contain at a minimum the following elements:

(A) An accessible copy of the regulatory text of this standard and an explanation of its contents;

(B) A general explanation of the epidemiology and symptoms of bloodborne diseases;

(C) An explanation of the modes of transmission of bloodborne pathogens;

(D) An explanation of the employer's exposure control plan and the means by which the employee can obtain a copy of the written plan;

(E) An explanation of the appropriate methods for recognizing tasks and other activities that may involve exposure to blood and other potentially infectious materials;

(F) An explanation of the use and limitations of methods that will prevent or reduce exposure including appropriate engineering controls, work practices, and personal protective equipment;

(G) Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;

(H) An explanation of the basis for selection of personal protective equipment;

(I) Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine and vaccination will be offered free of charge;

(J) Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials;

(K) An explanation of the procedure to follow if an exposure incident occurs, including the method of reporting the incident and the medical follow-up that will be made available;

(L) Information on the post-exposure evaluation and follow-up that the employer is required to provide for the employee following an exposure incident;

(M) An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and

(N) An opportunity for interactive questions and answers with the person conducting the training session.

(viii) The person conducting the training shall be knowledgeable in the subject matter covered by the elements contained in the training program as it relates to the workplace that the training will address.

(ix) Additional Initial Training for Employees in HIV and HBV Laboratories and Production Facilities. Employees in HIV or HBV research laboratories and HIV or HBV production facilities shall receive the following initial training in addition to the above training requirements.

(A) The employer shall assure 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.

(B) The employer shall assure that employees have prior experience in the handling of human pathogens or tissue cultures before working with HIV or HBV.

(C) The employer shall 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. The employer shall assure that employees participate in work activities involving infectious agents only after proficiency has been demonstrated.

(h) *Recordkeeping* —(1) *Medical Records.* (i) The employer shall establish and maintain an accurate record for each employee with occupational exposure, in accordance with 29 CFR 1910.1020.

(ii) This record shall include:

(A) The name of the employee;

(B) 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 as required by paragraph (f)(2);

(C) A copy of all results of examinations, medical testing, and follow-up procedures as required by paragraph (f)(3);

(D) The employer's copy of the healthcare professional's written opinion as required by paragraph (f)(5); and

(E) A copy of the information provided to the healthcare professional as required by paragraphs (f)(4)(ii)(B)(C) and (D).

(iii) Confidentiality. The employer shall ensure that employee medical records required by paragraph (h)(1) are:

(A) Kept confidential; and

(B) Not disclosed or reported without the employee's express written consent to any person within or outside the workplace except as required by this section or as may be required by law.

(iv) The employer shall maintain the records required by paragraph (h) for at least the duration of employment plus 30 years in accordance with 29 CFR 1910.1020.

(2) *Training Records.* (i) Training records shall include the following information:

(A) The dates of the training sessions;

(B) The contents or a summary of the training sessions;

(C) The names and qualifications of persons conducting the training; and

(D) The names and job titles of all persons attending the training sessions.

(ii) Training records shall be maintained for 3 years from the date on which the training occurred.

(3) *Availability.* (i) The employer shall ensure that all records required to be maintained by this section shall be made available upon request to the Assistant Secretary and the Director for examination and copying.

(ii) Employee training records required by this paragraph shall be provided upon request for examination and copying to employees, to employee representatives, to the Director, and to the Assistant Secretary.

(iii) Employee medical records required by this paragraph shall be provided upon request for examination and copying to the subject employee, to anyone having written consent of the subject employee, to the Director, and to the Assistant Secretary in accordance with 29 CFR 1910.1020.

(4) *Transfer of Records.* The employer shall comply with the requirements involving transfer of records set forth in 29 CFR 1910.1020(h).

(5) *Sharps injury log.* (i) The employer shall establish and maintain a sharps injury log for the recording of percutaneous injuries from contaminated sharps. The information in the sharps injury log shall be recorded and maintained in such manner as to protect the confidentiality of the injured employee. The sharps injury log shall contain, at a minimum:

(A) The type and brand of device involved in the incident,

(B) The department or work area where the exposure incident occurred, and

(C) An explanation of how the incident occurred.

(ii) The requirement to establish and maintain a sharps injury log shall apply to any employer who is required to maintain a log of occupational injuries and illnesses under 29 CFR part 1904.

(iii) The sharps injury log shall be maintained for the period required by 29 CFR 1904.33.

(i) *Dates* —(1) *Effective Date.* The standard shall become effective on March 6, 1992.

(2) The Exposure Control Plan required by paragraph (c) of this section shall be completed on or before May 5, 1992.

(3) Paragraphs (g)(2) Information and Training and (h) Recordkeeping of this section shall take effect on or before June 4, 1992.

(4) Paragraphs (d)(2) Engineering and Work Practice Controls, (d)(3) Personal Protective Equipment, (d)(4) Housekeeping, (e) HIV and HBV Research Laboratories and Production Facilities, (f) Hepatitis B Vaccination and Post-Exposure Evaluation and Follow-up, and (g)(1) Labels and Signs of this section, shall take effect July 6, 1992.

Appendix A to Section 1910.1030—Hepatitis B Vaccine Declination (Mandatory)

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

[56 FR 64175, Dec. 6, 1991, as amended at 57 FR 12717, Apr. 13, 1992; 57 FR 29206, July 1, 1992; 61 FR 5508, Feb. 13, 1996; 66 FR 5325, Jan. 18, 2001; 71 FR 16672, 16673, Apr. 3, 2006; 73 FR 75586, Dec. 12, 2008; 76 FR 33608, June 8, 2011; 76 FR 80740, Dec. 27, 2011; 77 FR 19934, Apr. 3, 2012]

Appendix C - Hepatitis B Vaccination Employee Acceptance/Declination Form

Hepatitis B Vaccination Acceptance/Declination Statement

I have received training on the risks of working with human blood or other potentially infectious materials as outlined in the Fitchburg State University's Bloodborne Pathogen Exposure Control Plan. In full recognition of this information (please check one of the following):

☐ I have already received the HBV vaccination series on:_____
DateNear
☐ I decline participation in the vaccination series.

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring the Hepatitis B Virus infection. I have been given the opportunity to be vaccinated with Hepatitis B vaccine, at no charge to myself. However, I decline the Hepatitis B vaccination at this time.

I understand that by declining this vaccination, I continue to be at risk of acquiring Hepatitis B, a serious disease.

If, in the future, I continue to have occupational exposure to blood or other potentially infectious materials and I wish to be offered the Hepatitis B vaccine, I can be vaccinated at that time at no charge to me.

☐ I accept participation in the hepatitis B program and wish to receive the vaccination series.

_____
Print Name

_____
Signature

_____
Supervisor

_____
Date

VACUNACIÓN de HEPATITIS B DECLARACION de ACEPTACION/DECLINACIÓN

He recibido la instrucción en los riesgos de trabajar con sangre humana u otras materias potencialmente contagiosas tal como se plantearon en el Fitchburg State University Plan de Control de Exposición de Patógeno de Bloodborne. En el reconocimiento repleto del arriba:

☐ Yo ya he recibido la serie de vacunación de HBV en:_____
Fecha/aiio
☐ Disminuyo la participación en la serie de vacunación.

Entiendo que debido a mi exposición profesional a la sangre u otras materias potencialmente contagiosas Puedo estar en el riesgo de adquirir la infección de Virus de Hepatitis B. He sido dado la oportunidad de ser vacunada con vacuna de Hepatitis B, en ninguna carga a yo mismo. Sin embargo, yo disminuyo la vacunación de la Hepatitis B en este momento.

Entiendo que disminuyendo esta vacunación, yo continuo estar en el riesgo de adquirir la Hepatitis B, una enfermedad grave.

Si, en el futuro, yo continua tener la exposición profesional a la sangre u otras materias potencialmente contagiosas y deseo ser ofrecido la vacuna de la Hepatitis B, puedo ser vacunado en aquel momento en ninguna carga a mi.

☐ Acepto la participación en el programa de la hepatitis B y el deseo para recibir la serie de vacunación.

_____
Imprima el Nombre

_____
Firma

_____
Supervisor

_____
Fecha

Appendix D - Program Updates and Annual Review Certification

FSU To insert upon ECP Revision