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| **UIS****Bloodborne Pathogens Program****Exposure Control Plan** |
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| Description: black1 |
| **University of Illinois at Springfield** |

Reviewed September 2003

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| **Table of Contents** |  |
| Introduction | 3 |
| Responsibility | 3 |
| Definitions | 3 |
| Training | 5 |
| Hepatitis B Vaccination | 6 |
| Medical Record-keeping | 7 |
| Exposure Prevention | 7 |
| Engineering and Work Practice Controls | 7 |
| Needlestick Prevention | 8 |
| Personal Protective Equipment | 8 |
| Handwashing | 10 |
| Housekeeping | 11 |
| Exposure Management | 12 |
| HIV and HBV Research and/or Production Laboratories | 13 |
| Assessment: Monitoring, Review and Update | 13 |
| Universal Precautions Policy | 13 |
| Disinfection & Sterilization Procedures | 13 |
| UIS Biological Waste Disposal Policy | 14 |
| Potential Bloodborne Pathogen Exposures to UIS Faculty, Staff and Students  | 15 |
|  |  |
| **Appendices** |  |
| Appendix A: Employee Exposure Determination | 16 |
| Appendix B: Hepatitis B Vaccination Declination Form | 17 |
| Appendix C: UIS Universal Precautions Policy | 18 |
| Appendix D: Needlestick Prevention Act | 20 |
| Appendix E: EPA Potentially Infectious Medical Waste Act | 23 |
| Appendix F: Biohazard Symbol | 33 |
| Appendix G: Procedures for Cleaning Blood or Body Fluid Spills | 34 |
| Appendix H: OSHA Bloodborne Pathogens Standard | 35 |

**Introduction**

In September 1986, the Occupational Safety and Health Administration (OSHA) was petitioned by various unions representing health care employees to develop a standard to protect workers from occupational exposure to bloodborne diseases. OSHA responded by issuing a proposed standard, 29 CFR 1910.1030, to reduce occupational exposure to Hepatitis B Virus (HBV), Human Immunodeficiency Virus (HIV) and other bloodborne pathogens. This standard became effective on March 6, 1992. Generally, the standard reflects published guidelines from the Centers for Disease Control and Prevention (CDC), which include the guidelines for Standard Blood & Body Fluid Precautions, or Universal Precautions. The purpose of this exposure control plan is to eliminate or minimize UIS employee occupational exposure to blood or other infectious body fluids. Other potentially infectious body fluids include: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, and any body fluid visibly contaminated with blood.

The UIS Bloodborne Pathogens Exposure Control Program requires participation by all its employees (student workers, graduate assistants, staff, and faculty) who have occupational exposure to bloodborne pathogens.

**Responsibility**

Department chairpersons and/or directors are responsible to ensure that individual departments and divisions are in compliance with the bloodborne pathogen standard. Faculty members, principal investigators or laboratory supervisors are responsible to ensure that the requirements and procedures outlined in the Exposure Control Plan that are appropriate to the individual work areas are carried out.

Employees are responsible for reporting exposures to their supervisors and complying with all components of the Exposure Control Plan.

UIS Campus Health Services is responsible for providing immunizations, post-exposure follow-up, and keeping medical records for employees.

UIS Safety Officer is responsible for reviewing and overseeing the Exposure Control Plan. This includes coordinating compliance efforts for UIS, acting as a consultant for departments regarding implementation and enforcement, evaluating work practices and personal protective equipment, providing educational materials to departments, providing and tracking employee training, and coordinating the university’s hepatitis B vaccination program.

Human Resources is responsible for immediately notifying the UIS Safety Officer of new hires that fall under the category of employees that are exposed to blood and body fluids in their workplace. See Appendix A for a list of these employees.

**Definitions**

***Blood***

Blood refers to human blood, human blood components, and products made from human blood.

***Bloodborne Pathogens***

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

***Decontamination***

Decontamination is 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***

Environmental Health & Safety Engineering controls are those controls (e.g. sharps disposal containers, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace. Examples of engineering controls would be safer medical devices, such as sharps with engineered sharps injury protections and needleless systems.

***Exposure Incident***

An exposure incident is 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.

***Needleless systems***

A device that does not use needles for (A) the collection of bodily fluids or withdrawal of bodily fluids after initial venous or arterial access is stabled, (B) the administration of medications or fluids, or (C) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

***Occupational Exposure***

Occupational exposure means reasonably anticipated skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee's duties.

***Other Potentially Infectious Materials (OPIM)***

Materials other than human blood are potentially infectious for bloodborne pathogens. These include 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); 3) HIV-containing cell or tissue cultures, organ cultures, culture medium or other solutions; and 4) blood, organs, or other tissues from experimental animals infected with HIV or HBV.

***Parenteral***

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

***Personal Protective Equipment***

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.

***Sharps with Engineered Sharps Injury Protections***

A non-needle sharp or needle device used for withdrawing body fluids, accessing a vein or artery, or administrating medications or other fluids, with a built-in safety or mechanism that effectively reduces the risk of an exposure incident.

***Universal Precautions***

Universal Precautions are 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***

Work Practice Controls are those practices that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles).

**Training**

*Scope*

All employees with reasonably anticipated exposure to bloodborne pathogens shall receive annual training regarding the prevention and control of bloodborne pathogens.

New employees with reasonably anticipated exposure to bloodborne pathogens shall receive training within 10 days of assignment.

Additional training shall be provided to employees as their job duties change. This will be monitored by individual supervisors in consultation with the safety officer.

*Recordkeeping*

The dates of the training sessions, content outline, attendees list, and presenters list shall be maintained by the safety officer for 10 years.

Department compliance with awareness training requirements will be monitored by the safety officer. A list of persons trained shall be submitted to the safety officer annually by each department or division.

*Content*

The training program shall contain the following elements:

1. An accessible copy of the bloodborne pathogen standard,
2. A general explanation of the epidemiology and symptoms of bloodborne diseases,
3. An explanation of modes of transmission of bloodborne pathogens,
4. A review of the exposure control plan,
5. An explanation of the appropriate methods for recognizing procedures and other activities that may involve exposure to blood and OPIM,
6. An explanation of the use and limitations of practices that will prevent or reduce the likelihood of exposure. This includes the appropriate use of personal protective equipment and proper work practices,
7. Information on the types, proper use, location, removal, handling, decontamination, and/or disposal of personal protective equipment,
8. An explanation of the rationale for selecting personal protective equipment,
9. Information on the hepatitis B vaccine, including information on its efficacy, safety, and the benefits of being protected against hepatitis B,
10. An explanation of the post-exposure evaluation in the event of an exposure including reporting mechanisms, time frame for reporting and the medical management that is available,
11. Information on the management of emergencies associated with bloodborne pathogens including persons to contact and precautions,
12. Review of signs, labeling, and bagging procedures associated with prevention and control of bloodborne pathogens,
13. Handling, use and disposal of bloodborne pathogens, syringes, safety syringe devices and biomedical wastes,
14. Information regarding the Needlestick Prevention Act,
15. An opportunity for interactive questions and answers with the person conducting the training session.

**Exposure Determination**

OSHA requires employers to perform an exposure determination concerning which employees may incur occupational exposure to blood or other potentially infectious materials. The exposure determination is made without regard to the use of personal protective equipment (i.e. employees are considered to be exposed even if they wear personal protective equipment). This exposure determination is required to list all job classifications in which all employees may be expected to incur such occupational exposure, regardless of frequency. Only these UIS employees may handle blood or other potentially infectious materials. The job classifications and associated tasks for these categories are found in Appendix A of this document.

In addition, OSHA requires a list of job classifications in which some employees may have occupational exposure. Since not all the employees in these categories would be expected to incur exposure to blood or other potentially infectious materials, tasks or procedures that could cause these employees to have occupational exposure are also required to be listed in order to clearly understand which employees in these categories are considered to have regular occupational exposure. The job classifications and associated tasks for these categories are also found in Appendix A of this document.

**Hepatitis B Vaccination**

All employees who have been identified as having regular exposure to blood or other potentially infectious materials will be offered the Hepatitis B vaccine, at no cost to the employee. The vaccine will be offered within ten (10) working days (after training) of their initial assignment to work involving the potential for occupational exposure to blood or other potentially infectious materials. Employees who decline the Hepatitis B vaccination must sign a Statement of Declination (See Appendix B). Employees who initially decline the vaccine but who later wish to have it may then be provided the vaccine at no cost. All vaccination records are maintained in Campus Health Services (BSB 20). All declination records are maintained by the UIS Safety Officer (BSB 33).

It is anticipated that an employee or employees not identified as having regular exposure to blood or other potentially infectious materials, might request a Hepatitis B vaccination. When this occurs, the employee(s) will be referred to the Health Services Nurse Director. The nurse will forward the request to the UIS Safety Committee for approval. The committee will decide whether the amendment will be an individual or position change. If approved, an amendment to this Exposure Control Plan, including all changes, will be forwarded to the Chancellor for final approval.

Clinical Lab Science Program Director is responsible for assuring that Clinical Lab Science faculty are offered vaccine and/or waivers are signed. Director of the Health Service will administer vaccine and maintain all records.

Clinical Lab Science students will be required to have the vaccine and/or sign a waiver before participating in labs that involve potentially infectious material. Vaccine may be administered at no cost in campus Health Services.

The Campus Health Service Nurse/Director is responsible for assuring that Campus Health Services employees are offered vaccine and/or waivers are signed. The Nurse/Director will administer the vaccine.

**Medical Recordkeeping**

Employee medical records, including a sharps injury log, shall be maintained by Campus Health Services for 30 years.

**Exposure Prevention**

*Universal Precautions*

Universal Precautions shall be practiced to prevent employee exposure to blood and other potentially infectious materials. See Appendix C.

*Engineering and Work Practice Controls*

Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Personal protective equipment shall be used when occupational exposure may occur even though the engineering and work practice controls are in place. Engineering controls shall be examined and maintained or replaced on a regular schedule.

* Hand washing facilities shall be provided and maintained with adequate supplies,
* Hand washing shall be performed after removal of gloves and after contact with blood or OPIM,
* Employees who have exudative lesions or weeping dermatitis shall refrain from handling blood or OPIM until the condition resolves,
* Contaminated sharps and needles shall not be bent, recapped, or sheared,
* Contaminated sharps and needles shall be disposed of in puncture resistant, color-coded, or labeled, leak-proof containers,
* Eating, drinking, smoking, handling contact lenses, and applying cosmetics are prohibited in work areas where there is a potential for blood or OPIM exposure,
* Food and drink are prohibited in work areas where there is a potential for blood or OPIM exposure,
* All procedures involving blood and OPIM shall be performed in such a manner to minimize splashing, spraying, spattering, generation of droplets, or aerosolization of these substances,
* Mouth pipetting and suctioning are not allowed,
* Resuscitation devices including mouthpieces or resuscitation bags shall be available for use in areas where the need for resuscitation is predictable, and
* All specimens of blood or OPIM shall be placed in closable, leak-proof containers prior to transport. If contamination of the outside of the primary container is likely, then a second container such as a plastic bag should be placed over the primary container to prevent contamination and/or leakage during handling, storage or transport.

The Exposure Control Plan shall be reviewed and updated at least annually by the UIS Safety Officer 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 reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and document annually consideration and implementation of appropriate commercially available and effective safer medical devices designed to eliminate or minimize occupational exposure.

**Needlestick Prevention**

OSHA estimates that 5.6 million workers in the health care industry and related occupations are at risk of occupational exposure to bloodborne pathogens, including human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), and others. According to the NIOSH Alert in March of 1999, it is estimated that 600,000 to 800,000 needlestick injuries (NSIs) and other percutaneous injuries occur annually among health care workers. Studies show that nurses sustain the majority of these injuries and that as many as one-third of all sharps injuries have been reported to be related to the disposal process. The CDC estimates that 62 to 88 percent of sharps injuries can potentially be prevented by the use of safer medical devices. Needlestick injuries and other sharps-related injuries, that result in occupational bloodborne pathogens exposure, continue to be an important public health concern. In response to this situation, Congress passed the Needlestick Safety and Prevention Act (See Appendix D) that became law on November 6, 2000.

To meet the requirements of this act OSHA has revised its Bloodborne Pathogen Standard and mandated safe sharps to allow comparable studies on sharps injuries and the effectiveness of sharps with engineered sharps injury protection (SESIPs).

The very purpose of that Act was to make sure that SESIPs are used as part of an overall bloodborne pathogens program to reduce accidental sharps injuries. Congress found that, "depending on the type of device used and the procedure involved, 62 to 88 percent of sharps injuries can potentially be prevented by the use of safer medical devices," on the basis of CDC findings in March 2000. They also found that the modification of the Bloodborne Pathogens Standard is appropriate to set forth in greater detail its requirement that employers identify, evaluate, and make use of effective safer medical devices.

Soliciting input from non-managerial employees responsible for patient care regarding the evaluation of engineering controls (e.g., SESIPs, needleless systems) is a requirement of the revised standard (January 2001).

Non-managerial employees responsible for direct patient care must have input in employer decisions about which engineering controls to adopt, not whether or not to adopt them. The standard does not give the employer the option to forgo appropriate, commercially available, and effective engineering controls. If the employer determines, through device evaluation, that no available devices are appropriate for a specific procedure, that decision must be documented in the Exposure Control Plan (ECP). If the employer feels that a particular device is cumbersome or awkward, employees may need additional practice or training until they feel comfortable using a new and different device. Whether or not an engineering control is chosen for a specific procedure, an annual review of devices is required and that review must be documented in the ECP.

*Syringes, safety syringes and needleless systems used for direct patient care*

Safety devices such as sheathing needles and needleless systems will be considered for staff protection. These devices will be reviewed by appropriate staff representatives and chosen by consensus for ease of use and engineering controls.

**Personal Protective Equipment (PPE)**

Personal protective equipment shall be used to prevent skin and mucous membrane contact with blood and OPIM. These may include the use of gloves, masks, protective eyewear or face shields and gowns or aprons, as appropriate for the task.

All Personal Protective Equipment (PPE) used at this facility will be provided without cost to employees and/or student workers. PPE will be chosen based on the anticipated exposure to blood or other potentially infectious materials. The PPE will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employees' clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time that the PPE will be used.

Protective clothing will be provided to employees/students in the following manner: Protective clothing (gloves, masks, goggles, face shields, and gowns) will be distributed by faculty in the labs. All students will be responsible for purchasing their own flame retardant lab coats. In-service regarding the appropriate use of protective clothing will be provided.

Gloves and other appropriate PPE are provided to all Building Service Workers for use when cleaning. They are available through Physical Planning and Operations Stores. Biohazard cleanup kits will be routinely provided to the Athletic Department, Auditorium, Day Care Center, Food Service, and Public Safety. They are available from the Safety Officer in Facility Services. The kits are also available to other departments upon request.

**The following tasks require the PPE as noted:**

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| Personal Protective Clothing | Task |
| Examination Gloves | Any laboratory or nursing procedures involving blood/body fluids. Cleaning any blood or body fluid spills. |
| Face Shield | Any procedure that may result in splash of blood/body fluids. |
| Lab Coat | All laboratory or nursing procedures involving blood/body fluids. |
| Protective Eyewear | Any procedure where a splash (with solid side shield) of blood/body fluids may occur.  |
| Utility Gloves | Routine cleaning of restrooms. Cleaning any vomitus, blood or other body fluids. |

All PPE will be cleaned, laundered, and disposed of by the employer at no cost to employees and students. All repairs and replacements will be made by the employer at no cost to employees.

Soiled lab coats and clinic jackets will be deposited in appropriately labeled bags. All garments which are penetrated by blood shall be removed immediately or as soon as feasible. All PPE will be removed prior to leaving the work area. PPE will be deposited in biohazard-labeled containers available in all labs in the Health and Sciences Building and the University Health Services Clinic.

Gloves shall be worn where it is reasonably anticipated that employees will have hand contact with blood, other potentially infectious materials, non-intact skin, and mucous membranes.

Building Service Workers -- The same type of gloves as those used by faculty and students in the labs is provided to the Building Service Workers. These gloves are available from PP&O Stores.

Examination gloves, face shields and/or protective eyewear, lab coats are provided to the University Health Service employees. These are supplied by the University Health Service.

*Gloves will be used for the following procedures:*

Building Service Workers -- Utility gloves are worn when cleaning the laboratories and restrooms in all buildings on campus and the exam room in the Health Services area in BSB Building. Latex disposable gloves should be worn when cleaning up blood and body fluid spills.

Clinical Lab Science Faculty and Students – Latex Gloves are worn at all times in the laboratory when working with blood or other potentially infectious materials.

Latex gloves are worn at all times when there is a potential exposure to blood and/or body fluids.

Disposable gloves used at this facility are not to be washed or decontaminated for re-use and are to be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised.

Used latex gloves are disposed of in biohazard-labeled containers and/or bags provided in the science labs, child care center, building services, police department, and Campus Health Service.

Utility gloves may be decontaminated for re-use provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

Masks in combination with eye protection devices, such as goggles or glasses with solid side shield, or chin length face shields, are required to be worn whenever splashes, spray, splatter, or droplets of blood or other potentially infectious materials may be generated and eye, nose, or mouth contamination can reasonably be anticipated. Situations at this facility that would require such protection are as follows:

In Clinical Lab Science student labs and University Health Service when uncapping tubes or performing laboratory procedures which might result in splash, spray, splatter of potentially infectious materials.

In Campus Health Service when performing examinations, treatments, laboratory procedures and obtaining laboratory specimens in which blood or body fluids may splash, spray or splatter.

**Hand washing**

Hands and other skin surfaces shall be washed immediately after contact with blood or OPIM. Hands shall be washed each time gloves are removed.

Hand washing facilities are also available to the employees who incur exposure to blood or other potentially infectious materials. OSHA requires that these facilities be readily accessible after incurring exposure. At this facility, handwashing facilities are located:

1. Nursing Lab and Exam Rooms in Health and Sciences Building.
2. Clinical Lab Science, Biology and Chemistry Labs in the Health and Sciences Building.
3. All examination rooms in the Campus Health Services.
4. Restrooms located throughout the campus.

*The procedure for hand washing is as follows:*

After removal of personal protective gloves, employees shall wash hands and any other potentially contaminated skin areas immediately, or as soon as feasible, with soap and water for at least twenty (20) seconds.

If employees incur exposure to their skin or mucous membranes, then those areas shall be washed or flushed with water as appropriate as soon as feasible following contact.

First responders (UIS Police) carry waterless hand disinfectants for protection when away from hand washing facilities.

**Sharps Containers**

Sheathing safety syringes or needless systems will be used in accordance with the Needlestick Prevention Act. All sharps (needles, scalpels and razor blades) shall be disposed of in labeled, leak-proof, puncture-proof sharps containers. Needles shall not be bent, sheared or recapped. Sharps containers shall be available in all areas on campus where sharps are being used.

**Biological Safety Cabinets (BSC)**

BSC are required for procedures that may generate an aerosol (vortexing, grinding, blending etc.).

*Housekeeping*

Cleaning, Disinfection, and Sterilization Practices

All environmental and work surfaces shall be properly cleaned and disinfected on a regular schedule and after contamination with blood or OPIM,

Appropriate personal protective equipment (e.g. gloves) shall be worn to clean and disinfect blood and OPIM spills, and

Cleaning, disinfection, and sterilization of equipment shall be performed, as appropriate, after contamination with blood and OPIM.

*Waste*

Gloves shall be worn by employees who have direct contact with contaminated waste,

All biohazardous and/or biomedical waste designated for removal and incineration off-site shall be labeled according to Illinois EPA regulations.

The Potentially Infectious Medical Waste (PIMW) regulations were passed in 1993. Because of the diversity of populations and requirements, each state has its own individual medical waste regulations. The Illinois EPA Bureau of Land is responsible for administering this PIMW program in Illinois. The PIMW regulations can be found in 35 Illinois Administrative Code: Subtitle M: All infectious wastes shall be managed according to Illinois EPA regulations. See Appendix E.

**Labels**

Warning labels as specified by the bloodborne pathogen standard shall be used. Red bags or red containers may be substituted for labels.

The labels shall include the biohazard symbol and be fluorescent orange or orange red.

Warning labels shall be placed on containers of regulated waste, refrigerators and freezers containing blood or other potentially infectious materials. Other containers used to store, transport or ship blood and OPIM shall also be labeled.

Warning labels should be affixed to contaminated equipment and state which portions of the equipment are contaminated.

See Appendix F for an example of an official biohazard label

**Exposure Management**

Exposure management including post exposure prophylaxis shall be done according to UIS Campus Health Services’ policies, in compliance with OSHA standard 1919.1030 and Illinois statutes. UIS employees who have been determined to be at risk shall receive education regarding the management of exposures to bloodborne pathogens that shall include the following:

1. Wound and skin exposures shall be immediately washed with soap and water for approximately 15 minutes.
2. Eye and mucous membrane exposures shall be rinsed in running water for 15 minutes.
3. Exposures shall be reported to the supervisor. The supervisor is responsible for notifying Human Resources and completing the appropriate paperwork.
4. Exposed individuals shall go as soon as possible (within one hour) to Campus Health Services follow-up evaluation and treatment.
5. UIS Campus Health Services shall provide a confidential medical evaluation and follow-up of all exposure events to employees. The follow-up shall include these components:
6. The route and circumstances of the exposure shall be documented.
7. The identification of the source individual shall be documented unless it is unfeasible or prohibited by university policies.
8. Serologic testing of the exposed employee shall be offered within the provisions of Illinois statutes for HIV. If the employee consents to baseline blood collection, but chooses not to be tested for HIV at that time, the sample shall be held for 90 days after the incident enabling the employee to have HIV testing within the 90 days.
9. The evaluation and follow-up protocols are based upon OSHA recommendations. A written follow-up letter shall be provided to the exposed employee with 15 days of the completion of the evaluation. The letter shall document:
10. That the employee has been informed of the results of the evaluation.
11. That the employee has been informed about any medical conditions resulting from exposure to blood or other potentially infectious materials which require any further evaluations or treatment.
12. The hepatitis B immunization status and the need for immunization.
13. The letter shall not include any confidential material.
14. The medical personnel responsible for evaluation of exposures shall be knowledgeable about the OSHA Bloodborne Pathogen standard 1910.1030.

**HIV and HBV Research and/or Production Laboratories**

There are special requirements for research laboratories and production facilities engaged in the culture, production, concentration, experimentation and manipulation of HIV and HBV. These requirements apply in addition to the other requirements of this rule. These requirements DO NOT apply to clinical or diagnostic laboratories engaged solely in the analysis of blood, tissue or organs. Currently, UIS does not maintain HIV and/or HBV research labs

**Assessment: Monitoring, Review and Update**

*Monitoring*

Each department chairperson or director shall be responsible for monitoring his or her department's or division's compliance with the bloodborne pathogen standard.

The UIS Safety Officer shall assist departments in monitoring compliance with the bloodborne pathogen standard.

*Review and Update*

The UIS Safety Officer review and assess the Exposure Control Plan annually. Input from the departments and from campus-wide monitoring will be used to update this plan as needed. This review must include changes in the technologies that reduce or eliminate exposures to bloodborne pathogens and the consideration and implementation of available and effective safer medical devices designed to eliminate or minimize occupation exposures into use in the workplace.

**Universal Precautions Policy**

According to the concept of Universal Precautions, all human blood, human blood components, products made from human blood and certain other materials are treated and handled as if known to be infectious for HIV, HBV and other bloodborne pathogens. The other potentially infectious materials (OPIM) that require Universal Precautions include:

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);
3. HIV-containing cell or tissue cultures, organ cultures and HIV-containing culture medium or other solutions; and 4) blood, organs or other tissues from experimental animals infected with HIV or HBV.

**Disinfection & Sterilization Procedures**

*Blood spills*

All blood and OPIM spills must be decontaminated with a 1:10 dilution of household bleach, or a commercial disinfectant capable of destroying bloodborne pathogens (tuberculocide). See Appendix G for proper procedures for cleaning blood or body fluid spills.

*Disinfection and cleaning*

Work surfaces, biosafety cabinets, and other laboratory equipment may be cleaned and disinfected with a 1:10 dilution of household bleach. Other EPA approved disinfectants may be used if they are labeled "tuberculocidal". Surfaces contaminated with blood or OPIM should be cleaned using a 1:10 dilution of chlorine bleach solution that is prepared daily. The contaminated area should be flooded with the bleach

solution and then cleaned up using paper towels. Ten minutes of the exposure is required for disinfection. Gloves should be worn during the clean-up procedures. Chlorine bleach can corrode metal and metal items treated with chlorine should be rinsed thoroughly.

*Sterilization*

Objects to be sterilized should first be thoroughly cleaned to remove blood, tissue, food, and other residue. Steam sterilization and/or autoclaving is the best way to achieve inactivation of biological agents.

**UIS Biological Waste Disposal Policy**

This policy is intended to provide guidance and insure compliance with the Illinois Environmental Protection Agency’s special waste guidelines. See Appendix E.

*Mixed chemical/biohazardous waste*

The biohazardous component of mixed chemical/biohazardous waste shall be inactivated prior to its

release for chemical disposal. Precautions should be taken to prevent the generation and release of toxic

chemicals during the inactivation process. In general, autoclaving is not recommended because

flammable or reactive compounds should not be autoclaved due to the explosion hazard. Please check

with the Safety Officer (6-6736) for guidance regarding particular chemicals.

*Packaging*

1) Biohazard bags should be used for the initial collection of certain biological wastes. All biohazard bags must meet impact resistance (165 grams), tearing resistance (480 grams), and heavy metal concentration (<100 PPM total of lead, mercury, chromium and cadmium) requirements. These bags must be placed into plastic containers and/or cardboard boxes prior to disposal.

2) Sharps

Needles, scalpels and contaminated pipettes are required to be containerized in red plastic sharps containers. These are located in the Clinical Laboratory Sciences laboratories and in Campus Health Services. All other sharps (broken glass, razor blades, plastic ware, pipettes, etc.) shall be placed in puncture-resistant containers. These are located in the biology and chemistry laboratories.

3) Storage Containers

All biological waste is required to be containerized in rigid, leak-proof, puncture resistant boxes as the

terminal receptacle. They are located in Facility Services (BSB33).

***Labeling***

All packages containing biological waste shall be labeled as follows:

*Date*

Biohazard bags shall be labeled with the date they were put into use. Please note that biohazard bags

must be labeled even though they will be placed inside a secondary container for final disposal.

Sharps containers shall be labeled with the date the container is full.

*Name/Location*

Generator’s (principal investigator’s name and lab location (room number) will be clearly printed on

each container.

*Biohazard sign*

Only manufacturer containers with the preprinted universal biohazard symbol and the words "biomedical", "biohazardous", or "infectious" shall be used.

*Transport*

The transport of biohazardous waste outside of the laboratory must be in a closed leak proof container that is labeled "biohazard". Only trained personnel may transport biomedical waste. Labeling may be accomplished by use of a red or orange biohazard bag or a biomedical waste box with the universal biohazard symbol. Only leak-proof containers and red plastic sharps containers may be used to transport biological waste to the biomedical waste receptacle. Waste receptacle personnel are instructed not to accept any other type of containers.

*Training*

All employees who handle biological waste shall be trained annually regarding the proper handling of

biological waste. All new employees shall be trained before they are allowed to handle biological waste.

Training is provided by the UIS Safety Officer, or through formal training programs set up by individual departments or divisions. For assistance, please call the UIS Safety Officer at 6-6736.

**Guidelines to Obtain Medical Care for UIS Employees and Students after a Bloodborne Pathogen Exposure**

Because some treatment regimens for bloodborne pathogen exposures must be started within 1 to 2 hours of exposure, the following guidelines have been established to ensure prompt and appropriate care for those who have sustained a potential exposure (needlestick, sharps injury, or mucous membrane splash).

UIS Employees (faculty, staff and student employees) must report all potential bloodborne pathogen exposures to their supervisors immediately and report to the designated facility listed below for evaluation. The employee or his/her supervisor should contact Human Resources. Under no circumstances are employees to delay medical evaluation. Reporting the incident can always be done after the evaluation has been completed.

Residents must follow the same guidelines as those for UIS employees above.

Students not employed by UIS receive their care through Campus Health Services if they sustain a bloodborne pathogen exposure. These students should only go to an emergency facility if it is after normal hours or on a weekend or break. Students not employed by UIS who are on an off-site rotation further than one-hour travel time from UIS should seek care at the nearest medical facility.

**Appendix A**

**Exposure Determination**

|  |  |
| --- | --- |
| **Job Classification** | **Tasks/Procedures** |
|  |  |
| Assistant Director; Student Housing | Cleaning up blood/body fluid spills in Student Housing. |
| Building Service Workers | Cleans restrooms and/or other areas where blood/body fluid spills may occur, including Health Services office and exam room. |
| Clerk Typist III, University Health Service | Cleans soiled equipment/lab. First person visible when injured enter Health Service Office. |
| Clinical Lab Science, Faculty | Teaching/laboratory supervision; Performing clinical laboratory procedures; and research/scholarship/service |
| Day Care, Permanent Employees | Caring for injured (bleeding) children. Assisting with toilet activities; and Cleaning up blood/body fluid spills that may occur as a result of the above activities |
| Food Service, Dining Supervisors | Responding to injured (bleeding) Employees (6/98) |
| Natural Science Technical Assistant,HSB Stockroom | Dispense laboratory media, chemicals, solutions, drugs, biologicals, and specimens, and/or be responsible for same; Train/supervise lab student workers; Perform scientific tests and/or be responsible for same; Secure, record and tabulate data relating to tests, experiments, and collections of specimens; and Provide for proper disposal of all lab materials/supplies |
| Nurse, Director, University Health Service | Performing examinations of clients; Drawing blood and obtaining other specimens for laboratory testing. Provides for proper disposal of all soiled materials, supplies. |
| Nurse Practitioner,Health Services | Performing examinations of clients; Drawing blood and obtaining other specimens for laboratory testing. Provides for proper disposal of all soiled materials, supplies. |
| Physiology (human) Faculty | Teaching/laboratory supervision; Performing and supervising laboratory procedures with blood/body fluids. |
| Resident DirectorStudent Housing | Cleaning up blood/body fluid spills that occur in Student Housing |
| Safety Officer | Transports potentially infectious medical waste on campus; and Provide for proper disposal of potentially infectious medical waste. |
| University Police | First Responders. Intervenes in situations where blood spills may occur. |

**Appendix B**

**Hepatitis B Vaccination**

**Declination Form**



**Appendix C**

**UIS Universal Precautions Policy**

**I. PURPOSE**

To establish guidelines for handling of potentially infectious blood and other body fluid specimens and for proper disposal of specimens, their containers, and specimen collecting devices. Adherence to these guidelines by all laboratory or other personnel will minimize the risk of transmission of bloodborne pathogens.

 **II. BACKGROUND**

The Occupational Safety and Health Administration (OSHA) requires that individuals who work with potentially infectious blood or body fluids must follow specific guidelines for safety. The OSHA rules, which took effect on March 6, 1992, were developed for workers to minimize the risk of acquiring a bloodborne pathogen and to minimize the risk for anyone to acquire an infection from a worker and devices utilized.

Universal precautions is one approach to infection control in which all human body fluids are considered to be infectious for one or more bloodborne pathogens (e.g., HIV, HBV). Universal precaution guidelines should be adhered to when collecting or handling the following body fluids: blood, amniotic fluid, pericardial fluid, peritoneal fluid, pleural fluid, synovial fluid, cerebrospinal fluid, semen, and vaginal secretions. Also included are other body fluids that may be contaminated with blood, such as: feces, nasal secretions, sputum, sweat, tears, urine, and vomitus. The guidelines also apply when the following are handled or disposed: any unfixed human organ or tissue, blood, organ or other tissue cultures that contain HIV or HBV, and blood, tissues or organs from HIV or HBV infected animals.

Exposure to an infectious agent can occur by contact with blood or other body fluid, as listed, through a needlestick, puncture wound, or direct contact of the fluid with an open wound, nonintact skin, or mucous membranes. Since some laboratory courses at UIS utilize human blood or body fluid as specimens, and since blood and body fluid spills may occur on campus, this policy was developed to educate personnel regarding acceptable procedures. Guidelines in this policy will be strictly adhered to in all laboratories that utilize human specimens and all situations where blood and/or body fluids are present.

The UIS guidelines were developed according to OSHA and the Center for Disease Control (CDC) guidelines for workers who collect, handle, and/or dispose of blood and other body fluids.

**III. PROCEDURES**

A. GENERAL

* Gloves MUST be worn at all times when collecting, handling, or disposing of blood or body fluids, cultures, or tissue specimens. Gloves should be changed when visibly contaminated and must be removed before leaving the area. Exam gloves must be disposed of in orange biohazard bags.
* Handwashing is required with soap and warm water for 20 seconds immediately after removal of gloves. This should be a routine practice.
* A buttoned lab coat is REQUIRED when collecting, handling, pipetting, analyzing or disposing of specimens to protect the worker from accidental soiling.
* Goggles and masks or splashguards are required when there is a risk of splashing or aerosol formation. Removal of vacutainer tube caps can cause splattering. Caution is advised during all types of sample processing.
* The lab bench must be cleaned with appropriate disinfectant (wescodyne or 10 percent bleach) after work is completed. This should be routine practice. Spills should be immediately cleaned using the same solution.
* Avoid accidental spillage on belongings, papers, and work supplies by keeping them away from work area. Specimens should be capped or parafilmed when not in use.
* Mouth pipetting is PROHIBITED. Bulbs or other mechanical devices must be used.
* Eating, drinking, and smoking is PROHIBITED in any lab area. Refrigerators containing lab materials or medications are not to be used for food storage.

B. PHLEBOTOMY

Exam Gloves must be worn for all phlebotomy procedures. Extreme caution is advised when handling needles and syringes to avoid needlesticks and accidental spillage.

Needles SHOULD NOT be recapped, broken, or removed by hand. Exposed needles should never be placed on bench tops. Needles should be removed using the special device provided in the puncture-resistant biohazard container. Recapping of needles is only allowed with the use of a mechanical device that allows the needle to be lowered into a plastic sheath and the cap can be dropped into the sheath or with a one-handed technique. Disposable syringes and attached needles should be disposed of in a puncture-resistant biohazard container. A syringe needle should not be removed.

Used gauze, alcohol pads, etc. should be disposed of in orange biohazard bags.

If a syringe is used to obtain a blood specimen, the vacutainer tubes should be filled by piercing the tube cap with the needle and allow the vacuum tube to draw the required amount of blood. Do not force blood into a vacutainer tube, as this can cause accidental splashing or spillage.

C. DISPOSAL

1. All blood, body fluid, tissue, and culture specimens MUST be capped or sealed and disposed of in orange biohazard bags. All disposable equipment (e.g., specimen containers, pipettes and tips, syringes) used for specimen processing or analysis should also be disposed of in orange biohazard bags.
2. All needles, disposable syringes with needles, and other sharp objects (e.g., bleeding time templates) should be placed in puncture-resistant containers.
3. All biohazard waste (e.g., orange bags, puncture resistant containers) should be autoclaved before placing in general waste for removal to landfill or removed by a licensed waste hauler.

D. Transportation of Medical Specimens

All specimens from University Health Service shall be transported in a puncture-proof container (used only for specimen transport) which is clearly labeled "biohazard".

**Appendix D**

**Needlestick Prevention Act**

One Hundred Sixth Congress *of the United States of America*

*AT THE SECOND SESSION*

Begun and held at the City of Washington on Monday, the twenty-fourth day of January, two thousand

An Act to require changes in the bloodborne pathogens standard in effect under the Occupational Safety and Health Act of 1970.

*Be it enacted by the Senate and House of Representatives of the United States of America in Congress assembled*,

SECTION 1. SHORT TITLE.

This Act may be cited as the `Needlestick Safety and Prevention Act'.

SECTION 2. FINDINGS.

The Congress finds the following:

(1) Numerous workers who are occupationally exposed to bloodborne pathogens have contracted fatal and other serious viruses and diseases, including the human immunodeficiency virus (HIV), hepatitis B, and hepatitis C from exposure to blood and other potentially infectious materials in their workplace.

(2) In 1991 the Occupational Safety and Health Administration issued a standard regulating occupational exposure to bloodborne pathogens, including the human immunodeficiency virus, (HIV), the hepatitis B virus (HBV), and the hepatitis C virus (HCV).

(3) Compliance with the bloodborne pathogens standard has significantly reduced the risk that workers will contract a bloodborne disease in the course of their work.

(4) Nevertheless, occupational exposure to bloodborne pathogens from accidental sharps injuries in health care settings continues to be a serious problem. In March 2000, the Centers for Disease Control and Prevention estimated that more than 380,000 percutaneous injuries from contaminated sharps occur annually among health care workers in United States hospital settings. Estimates for all health care settings are that 600,000 to 800,000 needlestick and other percutaneous injuries occur among health care workers annually. Such injuries can involve needles or other sharps contaminated with bloodborne pathogens, such as HIV, HBV, or HCV.

(5) Since publication of the bloodborne pathogens standard in 1991 there has been a substantial increase in the number and assortment of effective engineering controls available to employers. There is now a large body of research and data concerning the effectiveness of newer engineering controls, including safer medical devices.

(6) 396 interested parties responded to a Request for Information (in this section referred to as the `RFI') conducted by the Occupational Safety and Health Administration in 1998 on engineering and work practice controls used to eliminate or minimize the risk of occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps. Comments were provided by health care facilities, groups representing healthcare workers, researchers, educational institutions, professional and industry associations, and manufacturers of medical devices.

(7) Numerous studies have demonstrated that the use of safer medical devices, such as needleless systems and sharps with engineered sharps injury protections, when they are part of an overall bloodborne pathogens risk-reduction program, can be extremely effective in reducing accidental sharps injuries.

(8) In March 2000, the Centers for Disease Control and Prevention estimated that, depending on the type of device used and the procedure involved, 62 to 88 percent of sharps injuries can potentially be prevented by the use of safer medical devices.

(9) The OSHA 200 Log, as it is currently maintained, does not sufficiently reflect injuries that may involve exposure to bloodborne pathogens in healthcare facilities. More than 98 percent of healthcare facilities responding to the RFI have adopted surveillance systems in addition to the OSHA 200 Log. Information gathered through these surveillance systems is commonly used for hazard identification and evaluation of program and device effectiveness.

(10) Training and education in the use of safer medical devices and safer work practices are significant elements in the prevention of percutaneous exposure incidents. Staff involvement in the device selection and evaluation process is also an important element to achieving a reduction in sharps injuries, particularly as new safer devices are introduced into the work setting.

(11) Modification of the bloodborne pathogens standard is appropriate to set forth in greater detail its requirement that employers identify, evaluate, and make use of effective safer medical devices.

SEC. 3. BLOODBORNE PATHOGENS STANDARD.

The bloodborne pathogens standard published at 29 CFR 1910.1030 shall be revised as follows:

(1) The definition of `Engineering Controls' (at 29 CFR 1910.1030(b)) shall include as additional examples of controls the following: `safer medical devices, such as sharps with engineered sharps injury protections and needleless systems'.

(2) The term `Sharps with Engineered Sharps Injury Protections' shall be added to the definitions (at 29 CFR 1910.1030(b)) and defined as `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'.

(3) The term `Needleless Systems' shall be added to the definitions (at 29 CFR 1910.1030(b)) and defined as `a device that does not use needles for: (A) the collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (B) the administration of medication or fluids; or (C) any other procedure involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps'.

(4) In addition to the existing requirements concerning exposure control plans (29 CFR 1910.1030(c)(1)(iv)), the review and update of such plans shall be required to 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'.

(5) The following additional recordkeeping requirement shall be added to the bloodborne pathogens standard at 29 CFR 1910.1030(h): `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.'.

The requirement for such sharps injury log shall not apply to any employer who is not required to maintain a log of occupational injuries and illnesses under 29 CFR 1904 and the sharps injury log shall be maintained for the period required by 29 CFR 1904.6.

(6) The following new section shall be added to the bloodborne pathogens standard: `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.'.

SECTION 4. EFFECT OF MODIFICATIONS.

The modifications under section 3 shall be in force until superseded in whole or in part by regulations promulgated by the Secretary of Labor under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)) and shall be enforced in the same manner and to the same extent as any rule or regulation promulgated under section 6(b).

SECTION 5. PROCEDURE AND EFFECTIVE DATE.

(a) PROCEDURE- The modifications of the bloodborne pathogens standard prescribed by section 3 shall take effect without regard to the procedural requirements applicable to regulations promulgated under section 6(b) of the Occupational Safety and Health Act of 1970 (29 U.S.C. 655(b)) or the procedural requirements of chapter 5 of title 5, United States Code.

(b) EFFECTIVE DATE- The modifications to the bloodborne pathogens standard required by section 3 shall--

(1) within 6 months of the date of the enactment of this Act, be made and published in the Federal Register by the Secretary of Labor acting through the Occupational Safety and Health Administration; and

(2) at the end of 90 days after such publication, take effect.

Speaker of the House of Representatives.

Vice President of the United States and

President of the Senate.

**Appendix E**

**Potentially Infectious Medical Waste**

TITLE 35: ENVIRONMENTAL PROTECTION

SUBTITLE M: BIOLOGICAL MATERIALS

CHAPTER I: POLLUTION CONTROL BOARD

SUBCHAPTER b: POTENTIALLY INFECTIOUS MEDICAL WASTES

PART 1420

GENERAL PROVISIONS

Section

|  |  |
| --- | --- |
| 1420.101 | Scope and Applicability |
| 1420.102 | Definitions |
| 1420.103 | Incorporations by Reference |
| 1420.104 | Prohibitions |
| 1420.105 | Permit and Manifest Requirements and Exceptions |
| 1420.106 | Penalty Factor |
| 1420.107 | Cleaning and Disinfection |
| 1420.120 | Severability |

AUTHORITY: Implementing and authorized by Sections 56.2 and 27 of the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111 1/2, pars. 1056.2, as amended by P.A 87-1097, effective January 1, 1993, and 1027) [415 ILCS 5/56.2 and 5/27].

SOURCE: Adopted in R91-19, at 16 Ill. Reg. 2594, effective February 3, 1992; amended in R91-20, at 17 Ill. Reg. 9947, effective June 21, 1993.

Section 1420.101 Scope and Applicability

This Subtitle applies to all persons who generate, transport, treat, store or dispose of potentially infectious medical waste. It sets forth standards for such activities occurring in whole or in part within the State of Illinois.

 (Source: Amended at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.102 Definitions

All definitions set forth in this Section have the following meanings throughout this Subtitle, unless specifically provided otherwise. Words and terms not defined have the meanings set forth in the Act.

"6-log reduction" means a 6 decade reduction or a one millionth (0.000001) survival probability in a microbial population.

"Act" means the Environmental Protection Act (Ill. Rev. Stat. 1991, ch. 111 1/2, par. 1001 et seq., as amended by P.A. 87-1097, effective January 1, 1993) [415 ILCS 5/1 et seq.].

"Agency" means the Illinois Environmental Protection Agency.

"ATCC" means American Type Culture Collection.

"Board" means the Illinois Pollution Control Board.

"CFU" means colony forming unit.

"Chemical treatment" means the treatment of PIMW in a unit that uses disinfectants or chemicals as the primary means to eliminate the infectious potential of the waste. Examples of chemical treatment are ethylene oxide, chlorine and ozone.

"Class 4 etiologic agent" means a pathogenic agent that is extremely hazardous to laboratory personnel or that may cause serious epidemic disease. Class 4 etiologic agent includes the following viral agents:

Alastrim, Smallpox, Monkey pox, and Whitepox (when used for transmission or animal inoculation experiments);

Hemorrhagic fever agents (including Crimean hemorrhagic fever (Congo), Junin, and Machupo viruses, and others not yet defined);

Herpesvirus simiae (Monkey B virus);

Lassa virus;

Marburg virus;

Tick-borne encephalitis virus complex (including Absettarov, Hanzalova, HYPR, Kumlinge, Russian spring-summer encephalitis, Kyasanur forest disease, Omsk hemorrhagic fever and Central European encephalitis viruses);

Venezuelan equine encephalitis virus (epidemic strains, when used for transmission or animal inoculation experiments);

Yellow fever virus (wild, when used for transmission or animal inoculation experiments).

BOARD NOTE: A Class 4 Agent helps define an "isolation waste" for the purposes of Section3.84(a)(6) of the Act and this Subtitle. This listing derives from the CDC document, "Classification of Etiologic Agents on the Basis of Hazard," and is supplemented from the CDC/NIH document "Biosafety in Microbiological and Biomedical Laboratories."

"Container" means a receptacle that does not contain PIMW.

"Detergent" means a cleansing substance that contains surface-active agents for rapid wetting, penetration and emulsification of fats and oils, plus a sequestering agent.

"Detergent-sanitizer cleaner" means an agent that is both a detergent and sanitizer. The sanitizer must be registered by the United States Environmental Protection Agency, as identified on its label.

"Discharge" means the accidental or intentional spilling, leaking, pumping, pouring, emitting, emptying or dumping of waste into or on any land or water. This does not include the normal loading and unloading of PIMW from a vehicle.

"Enclosed compartment" means a compartment that provides protection from the elements, prevents spillage and prevents containers from falling off the vehicle. The enclosed compartment cannot be used to meet the packaging requirements of 35 Ill. Adm. Code 1421.Subpart C.

"Equivalent log kill" (T) means the logarithm of the indicator microorganisms that must be killed and correlates, at a minimum, to a 6-log reduction of viable test microorganisms.

"Highly Communicable Disease" means those diseases identified as class 4 etiologic agents under this Part. (Section 3.84(a)(6) of the Act)

"Indicator microorganisms" means those microorganisms listed in 35 Ill. Adm. Code 1422.Appendix A, Table B, as classified by ATCC.

"International biohazard symbol" means the symbol that is shown in 35 Ill. Adm. Code 1421.Illustration A.

"Irradiation treatment" means the treatment of PIMW in a unit that uses ionizing radiation as the primary means to eliminate the infectious potential of the waste. Examples of irradiation treatment are gamma (cobalt 60) and electron beam.

"Log" means logarithm to the base ten (10).

"Log kill" (L) means the difference between the logarithms of viable test microorganisms or indicator microorganisms before and after treatment.

"Oversized PIMW" means a single waste item that is too large to be placed into a thirty-three (33) gallon bag or container.

"Package" means a receptacle that contains PIMW. "PFU" means plaque forming unit.

"Person" is any individual, partnership, co-partnership, firm, company, corporation, association, joint stock company, trust, estate, political subdivision, state agency, or any other legal entity, or their representative, agent, or assigns*.* (Section 3.26 of the Act)

"Potentially Infectious Medical Waste" or "PIMW" means the following types of waste generated in connection with the diagnosis, treatment (I.E., provision of medical services), or immunization of human beings or animals; research pertaining to the provision of medical services; or the provision or testing of biologicals:

Cultures and stocks. This waste shall include but not be limited to cultures and stocks of agents infectious to humans, and associated biologicals; cultures from medical or pathological laboratories; cultures and stocks of infectious agents from research and industrial laboratories; wastes from the production of biologicals; discarded live or attenuated vaccines; or culture dishes and devices used to transfer, inoculate, or mix cultures.

Human pathological wastes. This waste shall include tissue, organs, and body parts (except teeth and the contiguous structures of bone and gum), body fluids that are removed during surgery, autopsy, or other medical procedures; or specimens of body fluids and their containers.

Human Blood and blood products. This waste shall include discarded human blood, blood components (e.g., serum and plasma), or saturated material containing free flowing blood or blood components.

Used sharps. This waste shall include but not be limited to discarded sharps used in animal or human patient care, medical research, or clinical or pharmaceutical laboratories; hypodermic, intravenous, or other medical needles; hypodermic or intravenous syringes; pasteur pipettes; scalpel blades; or blood vials. This waste shall also include but not be limited to other types of broken or unbroken glass (including slides and cover slips) in contact with infectious agents.

Animal waste. Animal waste means discarded materials, including carcasses, body parts, body fluids, blood, or bedding originating from animals inoculated during research, production of biologicals, or pharmaceutical testing with agents infectious to humans.

Isolation waste. This waste shall include discarded materials contaminated with blood, excretions, exudates, and secretions from humans that are isolated to protect others from highly communicable diseases. "Highly communicable diseases" means those diseases identified by the board in rules adopted under subsection (e) of Section 56.2 of the Act. (See Section 1420.102 of this Part.)

Unused sharps. This waste shall include but not be limited to the following unused, discarded sharps: hypodermic, intravenous, or other needles; hypodermic or intravenous syringes; or scalpel blades.

Potentially infectious medical waste does not include:

Waste generated as general household waste;

Waste (except for sharps) for which the infectious potential has been eliminated by treatment; or

Sharps that meet both of the following conditions:

The infectious potential has been eliminated from the sharps by treatment; and

The sharps are rendered unrecognizable by treatment. (Section3.84 of the Act)

"Putrescence" means the partial decomposition of organic matter by microorganisms so as to cause malodors, gases or other offensive conditions, or that is capable of providing food for vectors.

"Registered professional engineer" means a person registered under the Illinois Professional Engineering Practice Act (Ill. Rev. Stat. 1991, ch. 111, par. 5201 et seq.) [225 ILCS 325/1 et seq.].

"Reusable container" means a receptacle that meets the requirements of 35 Ill. Adm. Code 1421.121(a) and (b); is made and repaired with materials that are corrosion resistant and non-absorbent; and designed and constructed so as to easily permit cleaning and disinfection in accordance with Section 1420.107 of this Subtitle. A reusable container is not a single-use container or is not made of cardboard.

"Sanitizer" means an antimicrobial agent that is intended for application to inanimate objects or surfaces for the purpose of reducing the microbial count to safe levels. The sanitizer must be registered by the United States Environmental Protection Agency, as identified on its label.

"Sharps" mean unused sharps and used sharps as stated in the definition of potentially infectious medical waste in this Section with or without residual fluids.

"Significant mechanical change" means the substitution or addition of mechanical parts that result in different operating conditions. A significant mechanical change does not mean the replacement of a part(s) that meets the same specifications as the original part.

"Single-use container" means a container intended by the manufacturer for one use only, such as biohazard bags.

"Site" means any location, place, tract of land, and facilities, including but not limited to buildings, and improvements used for purposes subject to regulation or control by the Act or regulations thereunder.(Section 3.43 of the Act) For the purpose of this Subtitle, each campus of an educational institution is considered to be a single site.

"Storage" means the containment of waste, either on a temporary basis or for a period of years, in such a manner as not to constitute disposal.(Section 3.46 of the Act)

"Storage site" means a site at which waste is stored. "Storage site" includes transfer stations. (Section 3.47 of the Act)

"Test microorganisms" means those microorganisms listed in Section 1422.Appendix A, Table A, as classified by ATCC.

"Thermal treatment" means the treatment of PIMW in a unit that uses elevated temperatures as the primary means to eliminate the infectious potential of the waste. Examples of thermal treatment are incineration, steam sterilization, microwaving, radiowaving, infrared heating, pyrolysis, plasma systems and laser treatments.

"Transfer station" means a site or facility that accepts waste for temporary storage or consolidation and further transfer to a waste disposal, treatment or storage facility. "Transfer station" includes a site where waste is transferred from (1) a rail carrier to a motor vehicle or water carrier; (2) a water carrier to a rail carrier or motor vehicle; (3) a motor vehicle to a rail carrier, water carrier or motor vehicle; (4) a rail carrier to a rail carrier, if the waste is removed from a rail car; or (5) a water carrier to a water carrier, if the waste is removed from a vessel.(Section 3.83 of the Act)

"Treatment" means any method, technique or process, including neutralization, designed to change the physical, chemical, or biological character or composition of any waste so as to neutralize it or render it nonhazardous, safer for transport, amenable for recovery, amenable for storage, or reduced in volume. Such term includes any activity or processing designed to change the physical form or chemical composition of hazardous waste so as to render it nonhazardous.(Section 3.49 of the Act)

"Unrecognizable" means relating to a sharp that has undergone physical alteration (e.g., melting, charring, corroding, or grinding) so that the sharp may no longer be used for its intended purpose.

"Vector" means any living agent, other than human, capable of transmitting, directly or indirectly, an infectious disease.

"Vehicle" means any device used to transport special waste in bulk or in packages, tanks or other containers.

 (Source: Amended at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.103 Incorporations by Reference

The following materials are incorporated by reference. This Section incorporates no later editions or amendments.

Standard Methods for the Examination of Water and Wastewater, American Public Health Association et al. (1015 Fifteenth Street, N.W., Washington, D.C. 20005) (18th Edition, 1992).

Test Methods for Evaluating Solid Waste. Physical/Chemical Methods, EPA Publication SW-846 (Third Edition, 1986 as amended by Update I (November, 1990)). SW-846 and Update I are available from the Superintendent of Document, U.S. Government Printing Office, Washington, D.C. 20402, (202) 783-3238.

 (Source: Added at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.104 Prohibitions

No person shall:

a) Cause or allow the disposal of any PIMW. Sharps may be disposed of in any landfill permitted by the Agency under Section 21 of the Act to accept municipal waste for disposal, if both:

1) The infectious potential has been eliminated from the sharps by treatment; and

2) The sharps are packaged in accordance with Part 1421, Subpart C of this Subtitle.

b) CAUSE OR ALLOW THE DELIVERY OF ANY PIMW FOR TRANSPORT, STORAGE, TREATMENT OR TRANSFER EXCEPT IN ACCORDANCE WITH Part 1421, Subpart C of this Subtitle.

c) Beginning July 1, 1992, cause or allow the delivery of any PIMW to a person or facility for storage, treatment, or transfer that does not have a permit issued by the Agency to receive PIMW pursuant to Section 39 of the Act, unless no permit is required pursuant to subsection 1420.105(c) of this Part.

d) Beginning July 1, 1992, cause or allow the delivery or transfer of any PIMW for transport unless:

1) The transporter has a permit issued by the Agency to transport PIMW, or the transporter is exempt from the permit requirement pursuant to subsection 1420.105(b) of this Part. Permit applications must be submitted on forms provided by the Agency.

2) A PIMW manifest is completed for the waste unless no manifest is required pursuant to subsection 1420.105(e) of this Part.

e) Cause or allow the acceptance of any PIMW for purposes of transport, storage, treatment, or transfer except in accordance with Part 1421, Subpart C of this Subtitle and Part 1422, Subpart B of this Subtitle.

f) Beginning July 1, 1992, conduct any PIMW transportation operation:

1) Without a permit issued by the Agency to transport PIMW, unless no permit is required pursuant to subsection 1420.105(b) of this Part.

2) In violation of any condition of any permit issued by the Agency under the Act.

3) In violation of any regulation adopted by the Board.

4) In violation of any order adopted by the Board under the Act.

g) Beginning July 1, 1992, conduct any PIMW treatment, storage, or transfer operation:

1) Without a permit issued by the Agency that specifically authorizes the treatment, storage, or transfer of PIMW pursuant with Section 39 of the Act, unless no permit is required pursuant to subsection 1420.105(c) of this Part. Permit applications must be submitted on forms provided by the Agency.

2) In violation of any condition of any permit issued by the Agency under the Act.

3) In violation of any regulations adopted by the Board.

4) In violation of any order adopted by the Board under the Act.

h) Transport PIMW unless the transporter carries a completed PIMW manifest, unless no manifest is required pursuant to subsection 1420.105(e) of this Part.

i) Offer for transportation, transport, deliver, receive, or accept PIMW for which a manifest is required, unless the manifest indicates that the fee required under Section 56.4 of the Act has been paid.

j) Beginning January 1, 1994, conduct a PIMW treatment operation at an incinerator in existence on the effective date of this Title in violation of emission standards established for these incinerators under Section 129 of the Clean Air Act (42 USC 7429), as amended. (Section 56.1 of the Act)

k) Cause or allow the discharge of PIMW from a vehicle.

l) Cause or allow the discharge of PIMW into a sanitary or combined sewer except in accordance with 35 Ill. Adm. Code, Subtitle C. No person shall cause or allow the discharge of inert or solid PIMW, or inert or solid materials resulting from the treatment of PIMW, into any sanitary sewerage system, combined sewerage system, or storm sewerage system directly or indirectly tributary to waters of the State. Such prohibition applies to, but is not limited to, absorbents, aluminum or other metallic foils, ash, bone, bedding materials, cellulose, culture dishes, garments and other cloth materials, gauze, glass, pads, plastic, sharps, shavings, straw and syringes.

Board Note: Interested persons should note that discharges to sewer systems can also be regulated by units of local government.

 (Source: Added at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.105 Permit and Manifest Requirements and Exceptions

a) The permit and permit appeal provisions of Sections 39 and 40 of the Act and Board regulations adopted thereunder apply to this Subtitle.

b) A person who conducts a PIMW transportation operation is required to obtain a PIMW hauling permit from the Agency, except:

1)A person transporting PIMW generated solely by that person's activities; or

2) Noncommercial transportation of less than 50 pounds of potentially infections medical waste at any one time; or

3) The U.S. Postal Service.(Section 56.1(f) of the Act)

c) A person who conducts a PIMW treatment, storage, or transfer operation is required to obtain a permit from the Agency, except:

1) Any person conducting a PIMW treatment, storage, or transfer operation for PIMW generated by the person's own activities that are treated, stored, or transferred within the site where the PIMW is generated; or

2) Any hospital that treats, stores, or transfers only PIMW generated by its own activities or by members of its medical staff.(Section 56.1(g) of the Act) If the transportation of PIMW is interrupted so as not to constitute storage, no permit is required under Section 56.1(g) of the Act. For example, transportation of PIMW interrupted by vehicle repairs or inclement weather does not constitute storage.

d) A person applying for a permit for a PIMW treatment, storage, or transfer operation shall file an application with the Agency in accordance with the requirements and procedures of 35 Ill. Adm. Code 1422.105 through 1422.107.

e) Any person who transports PIMW is required to carry a completed PIMW manifest except for the transportation of:

1) PIMW being transported by generators who generated the waste by their own activities, when the PIMW is transported within or between sites or facilities owned, controlled, or operated by that person; or

2) Less than 50 pounds of PIMW at any one time for a noncommercial transportation activity; or

3) PIMW by the U.S. Postal Service.(Section 56.1(h) of the Act)

 (Source: Added at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.106 Penalty Factor

In making its orders and determinations relative to penalties, if any, to be imposed for violating Section 56.1(a) of the Act, the Board, in addition to the factors in Sections 33(c) and 42(h) of the Act, or the court shall take into consideration whether the owner or operator of the landfill reasonably relied on written statements from the person generating or treating the waste that the waste is not potentially infectious medical waste.(Section 56.1(k) of the Act)

 (Source: Added at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.107 Cleaning and Disinfection

a) Cleaning and disinfection comprises:

1) Washing with a solution of detergent used in accordance with manufacturer's instructions and agitation to remove visible contamination from each surface, followed by a clean water rinse; and

2) One of the following methods of low-level disinfection:

A) Exposure to hot water of at least 82 degrees Centigrade (180 degrees Fahrenheit) for a minimum of fifteen (15) seconds;

B) Rinsing with, or immersion in, a chemical disinfectant registered by the United States Environmental Protection Agency, as identified on its label and used in accordance with the manufacturer's instructions;

C) Rinsing with, or immersion in, a hypochlorite solution at a concentration of 50 ppm. For example, 1/8 cup of common household bleach (5.25% sodium hypochlorite) per gallon of tap water (31 milliliters bleach to 3.78 liters of water); or

D) Other disinfection processes as approved by the Agency in writing as an equivalent to one of the methods in subsections (a)(2)(A) and (B) of this Section.

b) A detergent-sanitizer used in conjunction with agitation to remove visible contamination may be substituted for the methods in subsection (a) of this Section, if used in accordance with the manufacturer's instructions.

 (Source: Added at 17 Ill. Reg. 9947, effective June 21, 1993)

Section 1420.120 Severability

If any Section, subsection, sentence or clause of this Subtitle is adjudged unconstitutional, invalid or otherwise not effective for any reason, such adjudication does not affect the validity of this Subtitle as a whole or of any Section, subsection, sentence or clause thereof not adjudged unconstitutional, invalid or otherwise not effective for any reason.

 (Source: Added at 17 Ill. Reg. 9947, effective June 21, 1993)

Appendix F

Biohazard Symbol

**Appendix G**

**Procedures for Cleaning Blood or Body Fluid Spills**

**PROCEDURE FOR CLEAN UP OF BLOOD OR BODY FLUID SPILLS**

Materials Required:

Gloves, Biohazard Bag, clean-up kit, puncture proof Biohazard Container.

Optional Personal Protective Materials Recommended:

Face Shield and/or gown as indicated for splatters.

Clean-Up Procedure:

Put on gloves and other personal protective equipment as indicated.

Clean the contaminated area with materials provided in the clean-up kit as directed.

Put all contaminated materials in the Biohazard Bag.

Remove gloves and other personal protective equipment and place them in the Biohazard Bag.

Tie the Biohazard Bag to secure contents inside.

Wash your hands with soap and water for at least twenty (20) seconds.

NOTE: To pick up possibly contaminated broken glass, use a brush and dust pan, tongs, or forceps -- NOT YOUR HANDS.

If you believe you have incurred an exposure, report the incident to your supervisor immediately. The supervisor will report the incident, and send you, to University Health Service.

**Appendix H**

**OSHA Bloodborne Pathogens Standard**

|  |  |
| --- | --- |
| • Part Number: | 1910 |
| • Part Title: | Occupational Safety and Health Standards |
| • Subpart: | Z |
| • Subpart Title: | Toxic and Hazardous Substances |
| • Standard Number: | [1910.1030](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030&p_text_version=TRUE) |
| • Title: | Bloodborne pathogens. |
|  |  |
| • Appendix: | [A](http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10052&p_text_version=TRUE)  |

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[**1910.1030(a)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(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.

[**1910.1030(b)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(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 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 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).

1910.1030(c)

Exposure Control --

1910.1030(c)(1)

Exposure Control Plan.

1910.1030(c)(1)(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.

1910.1030(c)(1)(ii)

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

1910.1030(c)(1)(ii)(A)

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

..1910.1030(c)(1)(ii)(B)

1910.1030(c)(1)(ii)(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

1910.1030(c)(1)(ii)(C)

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

1910.1030(c)(1)(iii)

Each employer shall ensure that a copy of the Exposure Control Plan is accessible to employees in accordance with 29 CFR 1910.1020(e).

[**1910.1030(c)(1)(iv)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(c)(1)(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:

1910.1030(c)(1)(iv)(A)

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

1910.1030(c)(1)(iv)(B)

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

[**1910.1030(c)(1)(v)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(c)(1)(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.

1910.1030(c)(1)(vi)

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

1910.1030(c)(2)

Exposure Determination.

1910.1030(c)(2)(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:

1910.1030(c)(2)(i)(A)

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

..1910.1030(c)(2)(i)(B)

1910.1030(c)(2)(i)(B)

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

1910.1030(c)(2)(i)(C)

A list of all tasks and procedures or groups of closely related task 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.

1910.1030(c)(2)(ii)

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

1910.1030(d)

Methods of Compliance --

[**1910.1030(d)(1)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(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.

[**1910.1030(d)(2)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2))

Engineering and Work Practice Controls.

[**1910.1030(d)(2)(i)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(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.

..1910.1030(d)(2)(ii)

1910.1030(d)(2)(ii)

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

[**1910.1030(d)(2)(iii)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(iii))

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

1910.1030(d)(2)(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.

[**1910.1030(d)(2)(v)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(v))

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

[**1910.1030(d)(2)(vi)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(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.

1910.1030(d)(2)(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.

..1910.1030(d)(2)(vii)(A)

[**1910.1030(d)(2)(vii)(A)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(vii)(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.

[**1910.1030(d)(2)(vii)(B)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(vii)(B))

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

[**1910.1030(d)(2)(viii)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(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:

1910.1030(d)(2)(viii)(A)

Puncture resistant;

1910.1030(d)(2)(viii)(B)

Labeled or color-coded in accordance with this standard;

1910.1030(d)(2)(viii)(C)

Leakproof on the sides and bottom; and

1910.1030(d)(2)(viii)(D)

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

1910.1030(d)(2)(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.

1910.1030(d)(2)(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.

..1910.1030(d)(2)(xi)

1910.1030(d)(2)(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.

1910.1030(d)(2)(xii)

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

1910.1030(d)(2)(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.

1910.1030(d)(2)(xiii)(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.

1910.1030(d)(2)(xiii)(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.

..1910.1030(d)(2)(xiii)(C)

1910.1030(d)(2)(xiii)(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.

[**1910.1030(d)(2)(xiv)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(2)(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.

1910.1030(d)(2)(xiv)(A)

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

1910.1030(d)(2)(xiv)(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.

[**1910.1030(d)(3)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(3))

Personal Protective Equipment --

1910.1030(d)(3)(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.

1910.1030(d)(3)(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.

1910.1030(d)(3)(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.

1910.1030(d)(3)(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.

..1910.1030(d)(3)(v)

1910.1030(d)(3)(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.

1910.1030(d)(3)(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.

1910.1030(d)(3)(vii)

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

1910.1030(d)(3)(viii)

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

1910.1030(d)(3)(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.

1910.1030(d)(3)(ix)(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.

..1910.1030(d)(3)(ix)(B)

1910.1030(d)(3)(ix)(B)

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

1910.1030(d)(3)(ix)(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.

1910.1030(d)(3)(ix)(D)

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

1910.1030(d)(3)(ix)(D)(1)

Periodically reevaluate this policy;

1910.1030(d)(3)(ix)(D)(2)

Make gloves available to all employees who wish to use them for phlebotomy;

1910.1030(d)(3)(ix)(D)(3)

Not discourage the use of gloves for phlebotomy; and

1910.1030(d)(3)(ix)(D)(4)

Require that gloves be used for phlebotomy in the following circumstances:

1910.1030(d)(3)(ix)(D)(4)(i)

When the employee has cuts, scratches, or other breaks in his or her skin;

1910.1030(d)(3)(ix)(D)(4)(ii)

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

1910.1030(d)(3)(ix)(D)(4)(iii)

When the employee is receiving training in phlebotomy.

..1910.1030(d)(3)(x)

1910.1030(d)(3)(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.

1910.1030(d)(3)(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.

1910.1030(d)(3)(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).

1910.1030(d)(4)

Housekeeping --

1910.1030(d)(4)(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.

1910.1030(d)(4)(ii)

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

..1910.1030(d)(4)(ii)(A)

1910.1030(d)(4)(ii)(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.

1910.1030(d)(4)(ii)(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.

1910.1030(d)(4)(ii)(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.

1910.1030(d)(4)(ii)(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.

1910.1030(d)(4)(ii)(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.

[**1910.1030(d)(4)(iii)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(4)(iii))

Regulated Waste --

..1910.1030(d)(4)(iii)(A)

1910.1030(d)(4)(iii)(A)

Contaminated Sharps Discarding and Containment.

1910.1030(d)(4)(iii)(A)(1)

Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

1910.1030(d)(4)(iii)(A)(1)(i)

Closable;

1910.1030(d)(4)(iii)(A)(1)(ii)

Puncture resistant;

1910.1030(d)(4)(iii)(A)(1)(iii)

Leakproof on sides and bottom; and

1910.1030(d)(4)(iii)(A)(1)(iv)

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

1910.1030(d)(4)(iii)(A)(2)

During use, containers for contaminated sharps shall be:

1910.1030(d)(4)(iii)(A)(2)(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);

1910.1030(d)(4)(iii)(A)(2)(ii)

Maintained upright throughout use; and

1910.1030(d)(4)(iii)(A)(2)(iii)

Replaced routinely and not be allowed to overfill.

1910.1030(d)(4)(iii)(A)(3)

When moving containers of contaminated sharps from the area of use, the containers shall be:

1910.1030(d)(4)(iii)(A)(3)(i)

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

1910.1030(d)(4)(iii)(A)(3)(ii)

Placed in a secondary container if leakage is possible. The second container shall be:

1910.1030(d)(4)(iii)(A)(3)(ii)(A)

Closable;

1910.1030(d)(4)(iii)(A)(3)(ii)(B)

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

1910.1030(d)(4)(iii)(A)(3)(ii)(C)

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

[**1910.1030(d)(4)(iii)(A)(4)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(4)(iii)(A)(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.

[**1910.1030(d)(4)(iii)(B)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(4)(iii)(B))

Other Regulated Waste Containment --

1910.1030(d)(4)(iii)(B)(1)

Regulated waste shall be placed in containers which are:

1910.1030(d)(4)(iii)(B)(1)(i)

Closable;

1910.1030(d)(4)(iii)(B)(1)(ii)

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

1910.1030(d)(4)(iii)(B)(1)(iii)

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

1910.1030(d)(4)(iii)(B)(1)(iv)

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

1910.1030(d)(4)(iii)(B)(2)

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

1910.1030(d)(4)(iii)(B)(2)(i)

Closable;

1910.1030(d)(4)(iii)(B)(2)(ii)

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

1910.1030(d)(4)(iii)(B)(2)(iii)

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

1910.1030(d)(4)(iii)(B)(2)(iv)

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

1910.1030(d)(4)(iii)(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.

..1910.1030(d)(4)(iv)

[**1910.1030(d)(4)(iv)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(d)(4)(iv))

Laundry.

1910.1030(d)(4)(iv)(A)

Contaminated laundry shall be handled as little as possible with a minimum of agitation.

1910.1030(d)(4)(iv)(A)(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.

1910.1030(d)(4)(iv)(A)(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.

1910.1030(d)(4)(iv)(A)(3)

Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through of 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.

1910.1030(d)(4)(iv)(B)

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

..1910.1030(d)(4)(iv)(C)

1910.1030(d)(4)(iv)(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).

[**1910.1030(e)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(e))

HIV and HBV Research Laboratories and Production Facilities.

1910.1030(e)(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.

1910.1030(e)(2)

Research laboratories and production facilities shall meet the following criteria:

1910.1030(e)(2)(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.

1910.1030(e)(2)(ii)

Special Practices.

1910.1030(e)(2)(ii)(A)

Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

..1910.1030(e)(2)(ii)(B)

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

..1910.1030(e)(2)(ii)(G)

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(ii)(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.

..1910.1030(e)(2)(ii)(L)

1910.1030(e)(2)(ii)(L)

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

1910.1030(e)(2)(ii)(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.

1910.1030(e)(2)(iii)

Containment Equipment.

1910.1030(e)(2)(iii)(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.

1910.1030(e)(2)(iii)(B)

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

1910.1030(e)(3)

HIV and HBV research laboratories shall meet the following criteria:

..1910.1030(e)(3)(i)

1910.1030(e)(3)(i)

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

1910.1030(e)(3)(ii)

An autoclave for decontamination of regulated waste shall be available.

1910.1030(e)(4)

HIV and HBV production facilities shall meet the following criteria:

1910.1030(e)(4)(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.

1910.1030(e)(4)(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.

..1910.1030(e)(4)(iii)

1910.1030(e)(4)(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.

1910.1030(e)(4)(iv)

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

1910.1030(e)(4)(v)

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

1910.1030(e)(4)(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).

1910.1030(e)(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).

1910.1030(f)

Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up --

..1910.1030(f)(1)

[**1910.1030(f)(1)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(1))

General.

[**1910.1030(f)(1)(i)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(1)(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.

[**1910.1030(f)(1)(ii)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(1)(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:

1910.1030(f)(1)(ii)(A)

Made available at no cost to the employee;

1910.1030(f)(1)(ii)(B)

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

1910.1030(f)(1)(ii)(C)

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

[**1910.1030(f)(1)(ii)(D)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(1)(ii)(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).

1910.1030(f)(1)(iii)

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

..1910.1030(f)(2)

1910.1030(f)(2)

Hepatitis B Vaccination.

1910.1030(f)(2)(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.

1910.1030(f)(2)(ii)

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

1910.1030(f)(2)(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.

1910.1030(f)(2)(iv)

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

[**1910.1030(f)(2)(v)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(2)(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).

[**1910.1030(f)(3)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(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:

1910.1030(f)(3)(i)

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

..1910.1030(f)(3)(ii)

1910.1030(f)(3)(ii)

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

1910.1030(f)(3)(ii)(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.

1910.1030(f)(3)(ii)(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.

1910.1030(f)(3)(ii)(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.

1910.1030(f)(3)(iii)

Collection and testing of blood for HBV and HIV serological status;

1910.1030(f)(3)(iii)(A)

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

..1910.1030(f)(3)(iii)(B)

1910.1030(f)(3)(iii)(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.

1910.1030(f)(3)(iv)

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

1910.1030(f)(3)(v)

Counseling; and

1910.1030(f)(3)(vi)

Evaluation of reported illnesses.

1910.1030(f)(4)

Information Provided to the Healthcare Professional.

1910.1030(f)(4)(i)

The employer shall ensure that the healthcare professional responsible for the employee's Hepatitis B vaccination is provided a copy of this regulation.

1910.1030(f)(4)(ii)

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

1910.1030(f)(4)(ii)(A)

A copy of this regulation;

1910.1030(f)(4)(ii)(B)

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

1910.1030(f)(4)(ii)(C)

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

..1910.1030(f)(4)(ii)(D)

1910.1030(f)(4)(ii)(D)

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

1910.1030(f)(4)(ii)(E)

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

[**1910.1030(f)(5)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(f)(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.

1910.1030(f)(5)(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.

1910.1030(f)(5)(ii)

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

1910.1030(f)(5)(ii)(A)

That the employee has been informed of the results of the evaluation; and

1910.1030(f)(5)(ii)(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.

..1910.1030(f)(5)(iii)

1910.1030(f)(5)(iii)

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

1910.1030(f)(6)

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

1910.1030(g)

Communication of Hazards to Employees --

1910.1030(g)(1)

Labels and Signs --

[**1910.1030(g)(1)(i)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(g)(1)(i))

Labels.

1910.1030(g)(1)(i)(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).

1910.1030(g)(1)(i)(B)

Labels required by this section shall include the following legend:

[View Image](http://www.osha-slc.gov/needlesticks/biohazard-sample2.jpg)

1910.1030(g)(1)(i)(C)

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

1910.1030(g)(1)(i)(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.

..1910.1030(g)(1)(i)(E)

1910.1030(g)(1)(i)(E)

Red bags or red containers may be substituted for labels.

1910.1030(g)(1)(i)(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).

1910.1030(g)(1)(i)(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.

[**1910.1030(g)(1)(i)(H)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(g)(1)(i)(H))

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

1910.1030(g)(1)(i)(I)

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

1910.1030(g)(1)(ii)

Signs.

1910.1030(g)(1)(ii)(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:

[View Image](http://www.osha-slc.gov/needlesticks/biohazard-sample2.jpg)

(Name of the Infectious Agent)
(Special requirements for entering the area)
(Name, telephone number of the laboratory director or other responsible person.)

..1910.1030(g)(1)(ii)(B)

1910.1030(g)(1)(ii)(B)

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

1910.1030(g)(2)

Information and Training.

1910.1030(g)(2)(i)

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

1910.1030(g)(2)(ii)

Training shall be provided as follows:

1910.1030(g)(2)(ii)(A)

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

1910.1030(g)(2)(ii)(B)

Within 90 days after the effective date of the standard; and

1910.1030(g)(2)(ii)(C)

At least annually thereafter.

1910.1030(g)(2)(iii)

For employees who have received training on bloodborne pathogens in the year preceding the effective date of the standard, only training with respect to the provisions of the standard which were not included need be provided.

1910.1030(g)(2)(iv)

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

..1910.1030(g)(2)(v)

1910.1030(g)(2)(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.

1910.1030(g)(2)(vi)

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

1910.1030(g)(2)(vii)

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

1910.1030(g)(2)(vii)(A)

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

1910.1030(g)(2)(vii)(B)

A general explanation of the epidemiology and symptoms of bloodborne diseases;

1910.1030(g)(2)(vii)(C)

An explanation of the modes of transmission of bloodborne pathogens;

1910.1030(g)(2)(vii)(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;

1910.1030(g)(2)(vii)(E)

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

..1910.1030(g)(2)(vii)(F)

1910.1030(g)(2)(vii)(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;

1910.1030(g)(2)(vii)(G)

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

1910.1030(g)(2)(vii)(H)

An explanation of the basis for selection of personal protective equipment;

1910.1030(g)(2)(vii)(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;

1910.1030(g)(2)(vii)(J)

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

1910.1030(g)(2)(vii)(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;

1910.1030(g)(2)(vii)(L)

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

..1910.1030(g)(2)(vii)(M)

1910.1030(g)(2)(vii)(M)

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

[**1910.1030(g)(2)(vii)(N)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(g)(2)(vii)(N))

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

1910.1030(g)(2)(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.

1910.1030(g)(2)(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.

1910.1030(g)(2)(ix)(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.

1910.1030(g)(2)(ix)(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.

..1910.1030(g)(2)(ix)(C)

1910.1030(g)(2)(ix)(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.

1910.1030(h)

Recordkeeping --

1910.1030(h)(1)

Medical Records.

1910.1030(h)(1)(i)

The employer shall establish and maintain an accurate record for each employee with occupational exposure, in accordance with 29 CFR 1910.1020.

1910.1030(h)(1)(ii)

This record shall include:

1910.1030(h)(1)(ii)(A)

The name and social security number of the employee;

1910.1030(h)(1)(ii)(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);

1910.1030(h)(1)(ii)(C)

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

1910.1030(h)(1)(ii)(D)

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

..1910.1030(h)(1)(ii)(E)

1910.1030(h)(1)(ii)(E)

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

1910.1030(h)(1)(iii)

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

1910.1030(h)(1)(iii)(A)

Kept confidential; and

1910.1030(h)(1)(iii)(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.

1910.1030(h)(1)(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.

1910.1030(h)(2)

Training Records.

1910.1030(h)(2)(i)

Training records shall include the following information:

1910.1030(h)(2)(i)(A)

The dates of the training sessions;

1910.1030(h)(2)(i)(B)

The contents or a summary of the training sessions;

1910.1030(h)(2)(i)(C)

The names and qualifications of persons conducting the training; and

..1910.1030(h)(2)(i)(D)

1910.1030(h)(2)(i)(D)

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

1910.1030(h)(2)(ii)

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

1910.1030(h)(3)

Availability.

1910.1030(h)(3)(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.

[**1910.1030(h)(3)(ii)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(h)(3)(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.

[**1910.1030(h)(3)(iii)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(h)(3)(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.

..1910.1030(h)(4)

[**1910.1030(h)(4)**](http://www.osha.gov/pls/oshaweb/owalink.query_links?src_doc_type=STANDARDS&src_unique_file=1910_1030&src_anchor_name=1910.1030(h)(4))

Transfer of Records.

1910.1030(h)(4)(i)

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

1910.1030(h)(4)(ii)

If the employer ceases to do business and there is no successor employer to receive and retain the records for the prescribed period, the employer shall notify the Director, at least three months prior to their disposal and transmit them to the Director, if required by the Director to do so, within that three month period.

1910.1030(h)(5)

Sharps injury log.

1910.1030(h)(5)(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:

1910.1030(h)(5)(i)(A)

The type and brand of device involved in the incident,

1910.1030(h)(5)(i)(B)

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

1910.1030(h)(5)(i)(C)

An explanation of how the incident occurred.

1910.1030(h)(5)(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 1904.

1910.1030(h)(5)(iii)

The sharps injury log shall be maintained for the period required by 29 CFR 1904.6.

1910.1030(i)

Dates --

1910.1030(i)(1)

Effective Date. The standard shall become effective on March 6, 1992.

1910.1030(i)(2)

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

1910.1030(i)(3)

Paragraph (g)(2) Information and Training and (h) Recordkeeping shall take effect on or before June 4, 1992.

1910.1030(i)(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, shall take effect July 6, 1992.

[56 FR 64004, Dec. 06, 1991, as amended at 57 FR 12717, April 13, 1992; 57 FR 29206, July 1, 1992; 61 FR 5507, Feb. 13, 1996; 66 FR 5325 Jan., 18, 2001]



Bottom of Form