

BIOLOGICAL SAFETY

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BLOODBORNE PATHOGEN EXPOSURE CONTROL PLAN

I. Introduction

A. Policy Statement

All UW workers including students and volunteers at risk of exposure to human blood and other potentially infectious materials during their work or study shall abide by all the requirements outlined in this Exposure Control Plan.

B. Purpose

This Exposure Control Plan intends to eliminate or minimize worker exposure to bloodborne pathogens in accordance with Occupational Safety and Health Administration's Bloodborne Pathogen Standard Title 29 of the Code of Federal Regulations, section 1910.1030.

This Exposure Control Plan is not intended to supersede the requirements detailed in the Bloodborne Pathogen Standard.

C. Definitions

This exposure plan applies to situations in which University of Wyoming workers are determined to be at risk of exposure to any of the following materials during the execution of their work or educational activities:

1. Human blood, human blood components, products made from human blood.
2. Other Potentially Infectious Materials. These include:
 - a. 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 where it is difficult to differentiate if the fluid is contaminated.
 - b. Any unfixed human tissue or organ (other than intact skin) from a human (living or dead).
 - c. Materials containing HIV: cell or tissue cultures, organ culture and HIV or HIV-containing culture medium or other solutions; and blood organs, and or other tissues from experimental animal infected with HIV or HBV.
 - d. "Commercially available" materials: materials derived from human blood, bodily fluids, or tissues are potentially infectious, unless it has been tested and proven negative for HIV or HBV or other bloodborne pathogens.

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3. Biohazardous waste is any 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.
4. Occupational exposure is defined as any skin, eye, mucous membrane, or parenteral (beneath skin) contact with blood or other potentially infectious material that may result from the performance of a worker's assignments. All exposure determinations shall be made without regard to the use of personal protective equipment.

D. Other Definitions

In this UW policy the term "worker" refers to anyone with reasonably anticipated exposure to potentially infectious materials as part of their job or studies at the University of Wyoming and includes employees, students, and volunteers.

An "employee" is anyone receiving a University of Wyoming paycheck. The University is not financially responsible for providing Hepatitis B Virus vaccinations for anyone not an employee of the University.

In this UW policy the term "personnel" refers those people at UW covered under Workers Compensation. These people include all University of Wyoming employees, and those students in practicums, residencies, internships, preceptorships and other U.S. placements for which the University of Wyoming grants academic credit.

Volunteers and students are covered by the Bloodborne Pathogen Standard and this plan, but not covered by Workers Compensation. Therefore departments will be required to pay any costs associated with an exposure.

A complete list of OSHA definitions can be found in the OSHA standard located in the appendix.

E. HIV and HBV Research Laboratories and Production Facilities Propagating or Concentrating HIV or HBV.

This applies to UW facilities that propagate or concentrate HIV or HBV viruses in the laboratory. These requirements apply in addition to the other requirements of the standard. For further information, contact the Biological Safety Specialist at 766-3277 or refer to 29 CFR 1910.1030 section (e) for the requirements.

II. Responsibilities and Program Administration

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Departments or worksites must clearly state in their exposure control plans the names and contact information for the personnel assigned to the following duties.

A. Implementing the Exposure Control Plan

Departments or worksites are responsible for ensuring that the provisions of this exposure control plan and mandates of the OSHA standard are carried out within the department.

B. Maintaining the Exposure Control Plan

Plans must be updated annually.

Departments or worksites with occupationally exposed workers must maintain a departmental or site-specific exposure control plan.

For assistance in writing an exposure control plan contact the Biological Safety Specialist (766-3277).

The Biological Safety Specialist in Environmental Health and Safety will maintain the UW Exposure Control Plan.

C. Complying with the Exposure Control Plan

All workers with occupational exposure to bloodborne pathogens must comply with the exposure control plan.

D. Providing and Maintaining Personal Protective Equipment

Departments or worksites must provide personal protective equipment and assign someone to maintain the equipment.

Respirator use is managed by Environmental Health and Safety. All UW respirator users must be fit testing and trained periodically by EHS.

E. Overseeing Medical Actions

Departments must assign someone to ensure all medical actions required are performed and appropriate worker health and OSHA records are maintained.

The Biological Safety Specialist will assist in these efforts.

Environmental Health and Safety will maintain medical records with confidentiality and security in accordance with applicable regulations.

F. Overseeing Training Actions

Departments must assign someone responsible to ensure workers receive training and document the training; and make the written exposure control plan available to workers, OSHA, and NIOSH representatives.

The Biological Safety Specialist is responsible for providing training for UW workers, documenting the training, and making the written exposure control plan available to workers, OSHA, and NIOSH representatives.

Training records will be maintained by Human Resources, and the Biological Safety Specialist.

III. Exposure Determination

A. Each department that has workers with occupational exposure shall determine which workers have potential exposure to blood or other potentially infectious materials. This exposure determination shall consider the following:

1. A list of all job classifications in which **all** workers in those job classifications have occupational exposure;
2. A list of job classifications in which **some** workers have occupational exposure, and
3. 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 workers in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of the Bloodborne Pathogen standard (see appendix).

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

Departments or worksites must include this exposure determination in the department's or worksite exposure control plan. Keep a departmental copy of the exposure control plan and other OSHA records. Send a copy of the exposure control plan to Environmental Health and Safety, Merica Hall, Room 303. For questions regarding the determination call the UW Biological Safety Specialist at 766-3277.

B. All Category for UW

All workers within the All Category are at risk of exposure because they execute tasks that involve exposure to human blood and other potentially infectious materials.

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All workers in these UW job classifications have occupational exposure. This is a non-exclusive list.

1. Athletic Trainers
2. Hazardous Waste Specialist and Assistants
3. Nurses
4. Physicians
5. Police

C. Some Category for UW

In the Some Category, some workers in a job category are at risk of exposure. Some workers in the following UW job classifications have occupational exposure.

1. Custodians, Movers and Maintenance Technicians
2. Researchers, Faculty and Staff

D. Tasks and Procedures

Tasks and procedures (or groups of closely related job tasks or procedures) for workers in the Some Category during which occupational exposures occur include:

1. Performing certain health care procedures
2. Cleaning-up of human blood or other potentially infectious materials, and
3. Research with human blood or other potentially infectious materials.

IV. Methods of Implementation and Control

A. Universal Precautions

Universal precautions are a method of infection control in which all human blood and other potentially infectious materials are treated as if known to be infectious for HIV and HBV.

Universal precautions do not apply to feces, nasal secretions, sputum, sweat, tears, urine or vomitus unless they contain visible blood.

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Under circumstances in which differentiation between body fluid types is difficult or impossible, all body fluids shall be considered potentially infectious materials.

B. Exposure Control Plan

Departments or worksites are responsible for reviewing and updating their exposure control plan annually or more frequently if necessary to reflect any new or modified tasks and procedures, which affect occupational exposure, and to reflect new or revised employee positions with occupational exposure.

The Biological Safety Specialist will maintain the UW exposure control plan. Workers covered by the bloodborne pathogen standard receive an explanation of the department and UW exposure control plan during their initial training session. All workers may review the exposure control plans at any time during their work shifts by contacting the responsible department contact or the Biological Safety Specialist at 766-3277. If requested workers will be provided a copy of the exposure control plan free of charge and with in 15 days of the request.

C. Engineering Controls and Work Practices

Engineering controls and work practices prevent or minimize exposure to bloodborne pathogens. They are to be specified in exposure controls plans.

1. Work Practices

Work practices are controls that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., universal precautions or prohibiting recapping of needles by two-handed technique).

Hand washing facilities will be readily accessible to workers with occupational exposure to blood and other potentially infectious materials. Where not feasible, dispensers of paper towels and antiseptic cleansers, or towelettes will be provided.

2. Engineering controls

Engineering controls are controls that isolate or remove the infection hazard from the workplace (e.g., sharps disposal containers, biosafety cabinets, fume hoods, self-sheathing needles).

Where occupational exposure remains after institution of engineering and work practice controls, personal protective equipment shall also be used. Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

3. Assessing Engineering and Work Practice Controls

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The department shall ensure engineering controls are examined, maintained or replaced on a regular basis to ensure effectiveness.

Departments will specify how it identifies the need for changes in engineering controls and work practices. The exposure control plan will state how new procedures or products are regularly assessed. Both front line workers and management are to be involved in the process.

The Biological Safety Specialist will work with departments to ensure effective implementation of engineering controls and work practices.

D. Personal Protective Equipment

Personal protective equipment is specialized clothing or equipment worn by workers for protection against a hazard. Gloves and safety glasses or goggles are commonly used personal protective equipment. General work clothes (e.g., uniforms, pants, and shirts) not intended to function as protection against a hazard are not considered to be personal protective equipment.

Personal protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through to street clothes, undergarments, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time in which the protective equipment will be used.

The department or supervising unit provides personal protective equipment (PPE) at no cost for employees that may have exposure to blood and other potentially infectious materials. Each department/worksite will designate someone to ensure worker training in the use of PPE. The department or supervising unit shall ensure the accessibility, cleaning, repair and replacement of personal protective equipment.

E. Regulated Waste and Housekeeping

1. Cleaning

The department or supervising unit shall determine and implement an appropriate written schedule for cleaning and a method of decontamination based upon the location within the facility, type of surface to be cleaned, type of soil present, and tasks or procedures being performed in the area.

Standard disinfectants for cleaning work areas:

- a. Household bleach – a fresh dilution of 1: 10 (1 part bleach added to 9 parts water).

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- b. Other disinfectants may be used as appropriate.
- c. Disinfectants must be left on contact for the recommended amount of time (see product label).

2. Regulated Waste

Biohazardous waste is a regulated waste and must be treated before final disposal. Environmental Health and Safety provides pick-up, treatment, and disposal for departments with no treatment ability. Call the Regulated Materials Management Center at 766-3696 or go to our web site at <http://www.uwyo.edu/safety/ehs/ehs.asp>

a. Definition

Biohazardous waste is any 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.

The amount or extent of contamination is not important. If an item can release blood or other potentially infectious materials (i.e., caked, saturated, or capable of flaking off), then it is a regulated waste.

b. Receptacles

Biohazardous waste must be placed in clearly labeled leak-proof, closeable containers. The biohazard emblem shall be used to label these containers. Puncture-proof and leak-proof sharps containers holding unfilled, plastic biohazard bag liners should be covered with a washable lid when not actively being used.

Containers for contaminated sharp objects are to be inspected and maintained or replaced by a designated worker in the department or worksite. Sharps are items that are capable of puncturing or poking through plastic disposal bags. Sharps contaminated with potentially infectious materials are treated as regulated waste and put in containers marked as "Biohazard."

c. Transport

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Approved biohazardous transport containers bear the universal biohazard emblem (Figure 1). If needed, store accumulated biohazardous waste in these containers in cool areas. Remove them to treatment as soon as possible. Biohazardous waste must not be left in an open outdoor area unconfined, or placed in the regular trash, or carried off site or transported by staff in private vehicles.

d. Treatment

Procedures for treatment of biohazardous waste by departments include autoclaving, incineration, or by chemical decontamination.

If departments treat their biohazardous waste they must monitor factors in the treatment procedures to ensure that the decontamination process is successful.

e. Dispose Treated Regulated Waste into Dumpsters

3. Laundry

Departments or worksites at the University of Wyoming will follow laundry procedures as set by the OSHA Bloodborne Pathogen Standard (see the appendix). Any item intended to function as personal protective equipment will be cleaned or laundered by the department or worksite. Contaminated uniforms will be laundered by the worksite.

F. Labels

1. Warning labels must include the "Biohazard" legend (Figure 1). The biohazard background shall be fluorescent orange or orange red with lettering or symbol in black or a contrasting color. Red bags may be substituted for labels.
2. Warning labels and signs shall be affixed to:
 - a. Containers of regulated waste,
 - b. Refrigerators and freezers containing blood or other potentially infectious materials,
 - c. Containers used to transport or ship blood or other potentially infectious materials, and
 - d. Contaminated equipment.

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Individual containers that are placed within a larger labeled container for storage, transport, shipping, or disposal do not have to be individually labeled.

V. Hepatitis B Vaccine

A. Hepatitis B Vaccine

Departments will offer hepatitis B vaccinations to employees who have reasonably anticipated chance of occupational exposure. The vaccination will be offered at no cost to the employee, after the employee receives the required training, and within 10 working days of the initial work assignment.

Employees and students may receive the vaccination at UW Student Health. Please call ahead of time to ensure Student Health has enough vaccine on hand. Departments arrange for payment with an IDR. If employees and students require a vaccination at times when Student Health is closed, or after an exposure incident, the vaccination will be given by the attending health care professional.

Vaccination is encouraged unless documentation exists that the worker previously received this series, or antibody testing reveals the employee is immune, or medical evaluation shows vaccination is contraindicated.

Employees have the right to refuse vaccination, but may request to be vaccinated at a later date. The statement found in the appendix must be signed if the employee chooses to decline the vaccination. The declination statement will be kept with the employee's medical records.

Vaccination will not be given whenever it is contraindicated for medical reasons.

Following hepatitis B vaccinations, the UW Environmental Health and Safety Office will keep records of the administration of the vaccination for employees. (Departments keep student vaccination records.) Please send to Environmental Health and Safety either a signed copy of the form "Medical Professional's Written Opinion" (form is located in the appendix), a copy of the vaccination record provided by the employee, or a copy of the proof of departmental payment of the vaccination such as an Inter Departmental Request.

B. First Aid Responders

Workers that receive first aid training as part of the job but first aid is not their primary job assignment are not required to obtain a pre-exposure hepatitis B vaccination provided that three conditions are met.

First, administering first aid is not the worker's primary job assignment.

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Second, UW workers who render first aid assistance in any situation involving human blood or other potentially infectious materials will be offered the hepatitis B vaccination.

Third, the vaccine must be offered within 24 hours of exposure regardless of whether the first aid duties resulted in an "exposure incident" as defined by the standard.

Post Exposure Evaluation form (appendix) must be completed before the end of the work shift and must include the name of all first aid providers involved in the incident, and whether an exposure incident occurred. Departments must keep this on file and send a copy to Environmental Health and Safety in Merica Hall, room 303.

Note that this exception for first aid responders does not apply to someone just because they perform first aid. Certain workers such as nurses are not exempt since providing first aid is a normal part of their job.

Also, the OSHA regulation does not apply to Good Samaritan acts such as a coworker providing assistance to an associate out of concern or kindness rather than part of the worker's normal duties and responsibilities.

First aid responders should avoid contact with body fluids when possible and use disposable gloves or place a barrier such as a clean dry cloth between the victim's body and the responder. First aid kits should include gloves and other personal protective equipment for first aid responders.

VI. Post Exposure Evaluation and Follow-up

- A. The worker exposed to human blood and other potentially infectious materials (e.g., cut, needle stick, inhalation of aerosols, spills, infected animal bites, other accidents involving human blood and other potentially infectious materials) shall:
1. Rinse the wound thoroughly and apply first aid,
 2. Immediately report their exposure to their supervisor,
 3. Fill out the UW Post Exposure Evaluation Form found in the appendix.
 4. Receive medical attention within one hour of the exposure. Bring the Post Exposure Evaluation and the rest of the appendix.

Employees and volunteers working in Laramie should report to Ivinson Memorial Hospital Emergency Room for a medical evaluation. Contact UW Police Department for transportation.

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Non-paid students in Laramie should report to Student Health if open. Otherwise report to Iverson Memorial Hospital Emergency Room.

ALL: If not in Laramie report to the health care facility designated by your department or the nearest emergency room or health care provider.

Physicians will follow the procedures in the Standard, section (f)(3) located in the appendix of this plan.

- B. An immediately available confidential medical evaluation and follow-up will be conducted by a licensed health care professional at no cost to the worker.

The health care professional will:

1. Note the routes of exposure and how the exposure occurred.
2. Contact the source individual (the source of the blood) unless UW can establish that identification is infeasible or prohibited by state or local law.
3. Obtain consent and make arrangements to have the source individual tested as soon as possible to determine HIV, HCV, and HBV infectivity. Document that the source individual's test results were conveyed to the worker's health care provider.

Departments may be required to pay the cost of testing the source individual.

4. If the source individual is already known to be HIV, HCV and/or HBV positive, new testing need not be performed.
5. Assure that the exposed worker is provided with the source individual's test results and with information about applicable disclosure laws and regulations concerning the identity and infectious status of the source individual (e.g., laws protecting confidentiality).
6. After obtaining consent, collect the exposed worker's blood as soon as feasible after exposure incident, and test blood for HBV and HIV serological status.
7. If the worker does not give consent for HIV serological testing during collection of blood for baseline testing, preserve the baseline blood sample for at least 90 days. If the exposed worker elects to have the baseline sample tested during this waiting period, perform testing as soon as feasible.

- C. Administration of Post-Exposure Evaluation and Follow-up

The supervisor or other departmentally designated person must ensure that the health care professional(s) responsible for the worker's hepatitis B vaccination

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and post-exposure evaluation and follow-up are given a copy of OSHA's bloodborne pathogen standard. The Biological Safety Specialist can assist in these efforts. The supervisor or designated person must ensure that the health care professional evaluating the worker after an exposure incident receives all the required information as listed in the Post- Exposure Evaluation form found in the appendix. The supervisor or designated person provides the worker with a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.

Workers Compensation covers University of Wyoming employees and University students in practicums, residencies, internships, preceptorships and other U.S. placements for which the University of Wyoming grants academic credit. However, departments may be required to pay for testing of the source person's blood. Volunteers and students are covered by the Bloodborne Pathogen Standard and this plan, but not covered by Workers Compensation. Therefore departments will be required to pay any costs associated with an exposure to volunteers or students. The costs may include testing of the source, as well as testing and treatment for the exposed student or volunteer.

D. Sharps Injury Log.

EHS shall maintain a sharps injury log for UW 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 worker. The sharps injury log shall contain, at a minimum:

1. The type and brand of device involved in the incident,
2. The department or work area where the exposure incident occurred.
3. An explanation of how the incident occurred.

Submit to EHS the sharps injury worksheet (found in the appendix). The sharps injury log shall be maintained for 5 years, the period required by 29 CFR 1904.6. Send copies of the sharps injury log to Environmental Health and Safety, Room 303, Merica Hall.

VII. Training

A. Training Requirements

1. Who

Workers determined to be at risk of occupational exposure will participate in a training program. The Biological Safety Specialist provides bloodborne pathogen and exposure control training. An individual from the department or

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worksite who is knowledgeable in the subject matter will provide site-specific training.

2. How, Where, and When

Training will be provided at no cost to workers, during regular working hours, and at a location accessible to workers. Workers will be trained in an appropriate content and educational level.

Training will be provided as follows:

- a. All new workers will receive training at the time of initial assignment.
- b. Refresher training will be provided for all occupationally exposed workers one year after their initial training and annually thereafter.

3. What

Training information will contain the following:

All workers who have occupational exposure to bloodborne pathogens receive training on the epidemiology, symptoms, and transmission of bloodborne pathogen diseases. In addition, the training program covers, at a minimum, the following elements:

- a. A copy and explanation of the standard
- b. An explanation of the UW exposure control plan and how to obtain a copy
- c. An explanation of methods to recognize tasks and other activities that may involve exposure to blood and other potentially infectious materials (OPIM), including what constitutes an exposure incident
- d. An explanation of the use and limitations of engineering controls, work practices, and personal protective equipment (PPE)
- e. An explanation of the types, uses, location, removal, handling, decontamination, and disposal of personal protective equipment (PPE)
- f. An explanation of the basis for personal protective equipment (PPE) selection
- g. Information on the hepatitis B vaccine, including information on its efficacy, safety, method of administration, the benefits of being vaccinated, and that the vaccine will be offered free of charge

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- h. Information on the appropriate actions to take and persons to contact in an emergency involving blood or other potentially infectious materials (OPIM)
- i. 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
- j. Information on the post-exposure evaluation and follow-up that the employer is required to provide for the worker following an exposure incident
- k. An explanation of the signs and labels and/or color coding required by the standard and used at this facility
- l. An opportunity: for interactive questions and answers with the person conducting the training session.

Additional initial training is required for workers in HIV and HBV research labs. Contact the Biological Safety Specialist at 766-3277 and refer to 29 CFR 1910.1030 section (g)(2)(ix) for the requirements.

VIII. Recordkeeping

A. Medical Records

Medical records shall include the following:

1. Name and social security number.
2. Hepatitis B vaccination status including dates and any medical records related to the employee's ability to receive the vaccine.
3. Results of examinations, medical tests, post exposure evaluation and follow-up procedures as required by 29 CFR 1910.1030 section (f)(3).
4. The healthcare professional's written opinion.
5. A copy of the information provided to the healthcare professional.

Worker's medical records are to be provided to workers for their examination and copying, to employee representatives having written consent from the subject employee, and to OSHA representatives within 15 working days.

Environmental Health and Safety will ensure the records are maintained according to regulations. Departments with exposed workers shall help to ensure the completeness of the medical records. Medical records shall be maintained for the

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duration of employment plus 30 years, at least. Medical records shall be kept confidential.

B. Training Records

Training records: shall be kept by Human Resources, Environmental Health and Safety. Training records must include the following:

1. Dates of training sessions.
2. Content or summary of the training session (videos used, handouts, area specific).
3. Names and job titles of all persons attending the sessions.
4. Names and qualifications of trainers.

The records shall be kept for at least 5 years from the date the training occurred.

Human Resources will maintain training records for UW. Employee training records are to be provided to employees for their examination and copying, to employee representatives, and OSHA representatives within 15 working days.

If departments provide their own bloodborne pathogen training, provide a copy of the record and outline of training to Environmental Health and Safety in Merica Hall Room 303.

IX. Procedures to Evaluate Circumstances Surrounding Exposure Incidents

A form in the appendix lists the procedure for evaluating of circumstances surrounding exposure incidents as required by the Standard. Complete this form for each incident. Departments will keep a copy. Send a copy to Environmental Health and Safety.

X. References

Biosafety in Microbiological and Biomedical Laboratories. Fifth Edition, Feb 2007
U.S. Department of Health and Human Services, Centers for Disease Control and Prevention, and National Institutes of Health. US Government Printing Office. Washington: 2007

<http://www.cdc.gov/od/ohs/biosfty/bmb15/bmb15toc.htm>

OSHA Bloodborne Pathogen Standard, 29 CFR 1910.1030

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=STANDARDS&p_id=10051

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CPL 2-2.44D Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens.

http://www.osha.gov/pls/oshaweb/owadisp.show_document?p_table=DIRECTIVES&p_id=2570

Centers for Disease Control and Prevention Resources:

Viral Hepatitis Page:

<http://www.cdc.gov/ncidod/diseases/hepatitis/index.htm>

Fact Sheets HIV/AIDS Prevention:

<http://www.cdc.gov/hiv/pubs/facts.htm>

[Biohazard Label](#)



Infectious Agent:

Biosafety Level:

Special Entry Requirements:

In case of Emergency contact:

Name:

Phone:

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Hepatitis B Vaccination Declination

Worker name (last, first, middle)

Social Security Number

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

Worker Signature

Date

Witness Signature

Date

File with Department records and UW Medical Records

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Exposure Packet

Human Bloodborne Pathogens Exposure Instructions
Bloodborne Pathogen Post Exposure Evaluation
Healthcare Professional's Written Opinion
Medical Release Form
Procedures for Evaluating the Circumstances Surrounding an Exposure Incident
Sharps Injury Log
29 CFR 1910.1030 - OSHA's Bloodborne Pathogen Standard
<http://www.osha-slc.gov/needlesticks/needlesticks-regtxtrev.html>

Human Bloodborne Pathogens Exposure Instructions and Checklist

1. Rinse or wash affected surface immediately and apply first aid.
2. Report to supervisor immediately.
3. Call UW Police Department for transport. Transport exposed worker to Ivinson Memorial Hospital Emergency Room ASAP. Bring this Exposure Packet to Emergency Room.
(Non-paid students report to Student Health if open. Otherwise report to Ivinson Memorial Hospital Emergency Room. ALL: If not in Laramie report to facility designated by your department or the nearest Emergency Room or Health Care Provider)
4. While in the waiting room, begin paperwork. Complete the Post Exposure Evaluation form in this Exposure Packet.
5. Provide Exposure Packet information to healthcare professional.

The supervisor shall ensure that the healthcare professional is provided the following information:

- A copy of the regulation
- A completed copy of the Post-Exposure Evaluation form
- Vaccination status and relevant medical records of the injured worker
6. Doctor completes Health Care Professional's Written Opinion form during the visit.
7. Medical Records Release form signed by injured worker to enable UW to maintain records as required by law
8. Contact the UW Biological Safety Specialist

Supervisor's signature: _____
File with UW medical records

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BLOODBORNE PATHOGEN POST-EXPOSURE EVALUATION

Date of exposure incident: _____ Time: _____

Worker exposed: _____ Social Security Number: _____

Instructions to the supervisor:

___ Provide this form and a copy of the OSHA Bloodborne Pathogen Standard to the evaluating healthcare provider.

___ Provide vaccination record and other relevant worker medical records to the evaluating healthcare provider.

1. Description of the worker's job duties relevant to the exposure incident:

2. Route(s) of exposure:

3. Circumstances of exposure:

4. Name of the source : _____
Results of source's blood test, if possible:

5. Vaccination status of worker:

Exposed worker's signature _____ Date _____

Supervisor (print name) _____ ensures the worker receives a copy of the evaluating health care professional's written opinion within 15 days after completion of the evaluation.

Supervisor signature: _____ Date _____

File with UW medical records.

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HEALTHCARE PROFESSIONAL'S WRITTEN OPINION

Give this form to the doctor or other attending health care professional to complete and return to you at the end of the visit.

Exposed worker's name: _____

Exposed on (date) _____

Social Security Number _____

The healthcare professional's written opinion for Hepatitis B vaccination shall be limited to:

1. Hepatitis B vaccination is indicated and whether the worker received such vaccination:

___ indicated

___ received

___ completed series

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

___ The worker has been informed of the results of the evaluation; and

___ The worker has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials which require further evaluation or treatment.

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

Healthcare Provider _____

Healthcare Provider signature _____ Date _____

The University of Wyoming shall obtain and provide the exposed worker with a copy of the evaluating healthcare professional's written opinion within 15 days of the completion of the evaluation.

File with UW medical records.

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Medical Records Release Consent Form

The University of Wyoming is required to keep certain medical records on UW workers with potential occupational exposure to human blood. The medical records include hepatitis B vaccination status and medical records after an exposure to human blood. This release form when signed by the UW worker (patient) authorizes the health care provider to give UW the medical records as required by the OSHA Bloodborne Pathogen Standard CFR 1910.1030.

Patient name: _____

List other names patient has been known as: _____

Date of birth: _____

Date of medical services: _____

The patient authorizes the health care provider _____ to release medical information regarding hepatitis B vaccination and records relating to the treatment of the patient after this occupational exposure to human blood to the University of Wyoming Office of Environmental Health and Safety.

Patient signature _____ Date _____

Or

Authorized Representative _____ Date _____

Witness _____ Date _____

This consent expires on the following date _____ or no later than one year from the date of signature. This release can be revoked at any time. To revoke this release a written statement must be signed, dated, and received by the health care provider.

Records may be sent to UW Biological Safety Specialist; Environmental Health and Safety; Department 3413; 1000 E. University Avenue; Laramie, WY 82071.

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PROCEDURES FOR EVALUATING CIRCUMSTANCES SURROUNDING AN EXPOSURE INCIDENT

Review of the circumstances of the exposure incidents conducted by:

Supervisor or contact person: _____

Exposed UW worker _____

Exposed on (date) _____ Social Security Number: _____

1. Engineering controls in use at the time:
2. Work practices followed:
3. Description of the device involved in the exposure:
4. Personal Protective Equipment or clothing that was used at the time of the exposure incident (gloves, eye shields, etc.):
5. Location of the incident (pool, gym, patient exam room, etc.):
6. Procedure being performed when the incident occurred:
7. Worker's training:

Appropriate changes will be made to the department/worksite's exposure control plan by:

(print name) _____

Signature _____ Date _____

Changes may include an evaluation of safer devices, adding workers to the exposure determination list, etc.

File with UW medical records and in departmental records.

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SHARPS INJURY LOG

Date of injury _____ Department _____

According to the Bloodborne Pathogen Standard (section (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 worker. The sharps injury log shall contain, at a minimum:

1. Type and brand of device involved in the incident:
2. Department and work area where the exposure incident occurred:
3. Explanation of how the incident occurred:
4. Injured worker's opinion as to whether there are any other engineering, administrative or work practice controls that could have prevented the injury:

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.

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

Keep this record in the department and send a copy of this completed form to Environmental Health and Safety, Merica Hall room 303, University of Wyoming.

OSHA BLOODBORNE PATHOGENS STANDARD

§ 1910.1030 Bloodborne Pathogens

(a) Scope and Application.

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

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

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

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

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

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

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

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

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

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

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

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

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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 needle sticks, 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.

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

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

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

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

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

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

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

(c) Exposure Control -

(c)(1) Exposure Control Plan.

(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.

(c)(1)(ii) The Exposure Control Plan shall contain at least the following elements:

(c)(1)(ii)(A) The exposure determination required by paragraph (c)(2),

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(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

(c)(1)(ii)(C) The procedure for the evaluation of circumstances surrounding exposure incidents as required by paragraph (f)(3)(i) of this standard.

(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).

(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:

(c)(1)(iv)(A) Reflect changes in technology that eliminate or reduce exposure to bloodborne pathogens; and

(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.

(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.

(c)(1)(vi) The Exposure Control Plan shall be made available to the Assistant Secretary and the Director upon request for examination and copying.

(c)(2) Exposure Determination.

(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:

(c)(2)(i)(A) List of all job classifications in which all employees in those job classifications have occupational exposure;

(c)(2)(i)(B) A list of job classifications in which some employees have occupational exposure, and

(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

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employees in job classifications listed in accordance with the provisions of paragraph (c)(2)(i)(B) of this standard.

(c)(2)(ii) This exposure determination shall be made without regard to the use of personal protective equipment.

(d) Methods of Compliance -

(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.

(d)(2) Engineering and Work Practice Controls.

(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.

(d)(2)(ii) Engineering controls shall be examined and maintained or replaced on a regular schedule to ensure their effectiveness.

(d)(2)(iii) Employers shall provide handwashing facilities, which are readily accessible to employees.

(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.

(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.

(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.

(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.

(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.

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(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.

(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:

(d)(2)(viii)(A) puncture resistant;

(d)(2)(viii)(B) labeled or color-coded in accordance with this standard;

(d)(2)(viii)(C) leak proof on the sides and bottom; and

(d)(2)(viii)(D) in accordance with the requirements set forth in paragraph (d)(4)(ii)(E) for reusable sharps.

(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.

(d)(2)(x) Food and drink shall not be kept in refrigerators, freezers, shelves, cabinets or on countertops or bench tops where blood or other potentially infectious materials are present.

(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.

(d)(2)(xii) Mouth pipetting/suctioning of blood or other potentially infectious materials is prohibited.

(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.

(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.

(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

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handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

(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.

(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.

(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.

(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.

(d)(3) Personal Protective Equipment -

(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.

(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 judgment, the circumstances shall be investigated and documented in order to determine whether changes can be instituted to prevent such occurrences in the future.

(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.

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(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.

(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.

(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.

(d)(3)(vii) All personal protective equipment shall be removed prior to leaving the work area.

(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.

(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.

(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.

(d)(3)(ix)(B) Disposable (single use) gloves shall not be washed or decontaminated for re-use.

(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.

(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:

(d)(3)(ix)(D)(1) Periodically reevaluate this policy;

(d)(3)(ix)(D)(2) Make gloves available to all employees who wish to use them for phlebotomy;

(d)(3)(ix)(D)(3) Not discourage the use of gloves for phlebotomy; and

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(d)(3)(ix)(D)(4) Require that gloves be used for phlebotomy in the following circumstances:

(d)(3)(ix)(D)(4)(i) When the employee has cuts, scratches, or other breaks in his or her skin;

(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

(d)(3)(ix)(D)(4)(iii) When the employee is receiving training in phlebotomy.

(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.

(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.

(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, orthopedic surgery).

(d)(4) Housekeeping -

(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.

(d)(4)(ii) All equipment and environmental and working surfaces shall be cleaned and decontaminated after contact with blood or other potentially infectious materials.

(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.

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(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 work shift if they may have become contaminated during the shift.

(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.

(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 dustpan, tongs, or forceps.

(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.

(d)(4)(iii) Regulated Waste---

(d)(4)(iii)(A) Contaminated Sharps Discarding and Containment.

(d)(4)(iii)(A)(1) Contaminated sharps shall be discarded immediately or as soon as feasible in containers that are:

(d)(4)(iii)(A)(1)(i) Closable;

(d)(4)(iii)(A)(1)(ii) Puncture resistant;

(d)(4)(iii)(A)(1)(iii) Leak proof on sides and bottom; and

(d)(4)(iii)(A)(1)(iv) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard.

(d)(4)(iii)(A)(2) During use, containers for contaminated sharps shall be:

(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);

(d)(4)(iii)(A)(2)(ii) Maintained upright throughout use; and

(d)(4)(iii)(A)(2)(iii) Replaced routinely and not be allowed to overfill.

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(d)(4)(iii)(A)(3) When moving containers of contaminated sharps from the area of use, the containers shall be:

(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;

(d)(4)(iii)(A)(3)(ii) Placed in a secondary container if leakage is possible. The second container shall be:

(d)(4)(iii)(A)(3)(ii)(A) Closable;

(d)(4)(iii)(A)(3)(ii)(B) Constructed to contain all contents and prevent leakage during handling, storage, transport, or shipping; and

(d)(4)(iii)(A)(3)(ii)(C) Labeled or color-coded according to paragraph (g)(1)(i) of this standard.

(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.

(d)(4)(iii)(B) Other Regulated Waste Containment -

(d)(4)(iii)(B)(1) Regulated waste shall be placed in containers, which are:

(d)(4)(iii)(B)(1)(i) Closable;

(d)(4)(iii)(B)(1)(ii) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

(d)(4)(iii)(B)(1)(iii) Labeled or color-coded in accordance with paragraph (g)(1)(i) this standard; and

(d)(4)(iii)(B)(1)(iv) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(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:

(d)(4)(iii)(B)(2)(i) Closable;

(d)(4)(iii)(B)(2)(ii) Constructed to contain all contents and prevent leakage of fluids during handling, storage, transport or shipping;

(d)(4)(iii)(B)(2)(iii) Labeled or color-coded in accordance with paragraph (g)(1)(i) of this standard; and

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(d)(4)(iii)(B)(2)(iv) Closed prior to removal to prevent spillage or protrusion of contents during handling, storage, transport, or shipping.

(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.

(d)(4)(iv) Laundry.

(d)(4)(iv)(A) Contaminated laundry shall be handled as little as possible with a minimum of agitation.

(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.

(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.

(d)(4)(iv)(A)(3) Whenever contaminated laundry is wet and presents a reasonable likelihood of soak-through or leakage from the bag or container, the laundry shall be placed and transported in bags or containers which prevent soak-through and/or leakage of fluids to the exterior.

(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.

(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).

(e) HIV and HBV Research Laboratories and Production Facilities.

(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.

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

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(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.

(e)(2)(ii) Special Practices.

(e)(2)(ii)(A) Laboratory doors shall be kept closed when work involving HIV or HBV is in progress.

(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, leak proof, labeled or color-coded container that is closed before being removed from the work area.

(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.

(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.

(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.

(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.

(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.

(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.

(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.

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(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.

(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.

(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.

(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.

(e)(2)(iii) Containment Equipment.

(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.

(e)(2)(iii)(B) Biological safety cabinets shall be certified when installed, whenever they are moved and at least annually.

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

(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.

(e)(3)(ii) An autoclave for decontamination of regulated waste shall be available.

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

(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

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other areas or activities may also be provided by a double-door 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.

(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.

(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.

(e)(4)(iv) Access doors to the work area or containment module shall be self-closing.

(e)(4)(v) An autoclave for decontamination of regulated waste shall be available within or as near as possible to the work area.

(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).

(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).

(f) Hepatitis B Vaccination and Post-exposure Evaluation and Follow-up -

(f)(1) General.

(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.

(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:

(f)(1)(ii)(A) Made available at no cost to the employee;

(f)(1)(ii)(B) Made available to the employee at a reasonable time and place;

(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

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(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).

(f)(1)(iii) The employer shall ensure that all laboratory tests are conducted by an accredited laboratory at no cost to the employee.

(f)(2) Hepatitis B Vaccination.

(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.

(f)(2)(ii) The employer shall not make participation in a prescreening program a prerequisite for receiving hepatitis B vaccination.

(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.

(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.

(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).

(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:

(f)(3)(i) Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred;

(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;

(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.

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(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.

(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.

(f)(3)(iii) Collection and testing of blood for HBV and HIV serological status;

(f)(3)(iii)(A) The exposed employee's blood shall be collected as soon as feasible and tested after consent is obtained.

(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.

(f)(3)(iv) Post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service;

(f)(3)(v) Counseling; and

(f)(3)(vi) Evaluation of reported illnesses.

(f)(4) Information Provided to the Healthcare Professional.

(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.

(f)(4)(ii) The employer shall ensure that the healthcare professional evaluating an employee after an exposure incident is provided the following information:

(f)(4)(ii)(A) A copy of this regulation;

(f)(4)(ii)(B) A description of the exposed employee's duties as they relate to the exposure incident;

(f)(4)(ii)(C) Documentation of the route(s) of exposure and circumstances under which exposure occurred;

(f)(4)(ii)(D) Results of the source individual's blood testing, if available; and

(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.

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(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.

(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.

(f)(5)(ii) The healthcare professional's written opinion for post-exposure evaluation and follow-up shall be limited to the following information:

(f)(5)(ii)(A) That the employee has been informed of the results of the evaluation; and

(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.

(f)(5)(iii) All other findings or diagnoses shall remain confidential and shall not be included in the written report.

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

(g) Communication of Hazards to Employees -

(g)(1) Labels and Signs -

(g)(1)(i) Labels.

(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).

(g)(1)(i)(B) Labels required by this section shall include the following legend:

(g)(1)(i)(C) These labels shall be fluorescent orange or orange-red or predominantly so, with lettering and symbols in a contrasting color.

(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.

(g)(1)(i)(E) Red bags or red containers may be substituted for labels.

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(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).

(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.

(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.

(g)(1)(i)(I) Regulated waste that has been decontaminated need not be labeled or color-coded.

(g)(1)(ii) Signs.

(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:

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

(g)(1)(ii)(B) These signs shall be fluorescent orange-red or predominantly so, with lettering and symbols in a contrasting color.

(g)(2) Information and Training.

(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.

(g)(2)(ii) Training shall be provided as follows:

(g)(2)(ii)(A) At the time of initial assignment to tasks where occupational exposure may take place;

(g)(2)(ii)(B) Within 90 days after the effective date of the standard; and

(g)(2)(ii)(C) At least annually thereafter.

(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.

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(g)(2)(iv) Annual training for all employees shall be provided within one year of their previous training.

(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.

(g)(2)(vi) Material appropriate in content and vocabulary to educational level, literacy, and language of employees shall be used.

(g)(2)(vii) The training program shall contain at a minimum the following elements:

(g)(2)(vii)(A) An accessible copy of the regulatory text of this standard and an explanation of its contents;

(g)(2)(vii)(B) A general explanation of the epidemiology and symptoms of bloodborne diseases;

(g)(2)(vii)(C) An explanation of the modes of transmission of bloodborne pathogens;

(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;

(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;

(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;

(g)(2)(vii)(G) Information on the types, proper use, location, removal, handling, decontamination and disposal of personal protective equipment;

(g)(2)(vii)(H) An explanation of the basis for selection of personal protective equipment;

(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;

(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;

(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;

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(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;

(g)(2)(vii)(M) An explanation of the signs and labels and/or color coding required by paragraph (g)(1); and

(g)(2)(vii)(N) An opportunity for interactive questions and answers with the person conducting the training session.

(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.

(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.

(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.

(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.

(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.

(h) Recordkeeping -

(h)(1) Medical Records.

(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.

(h)(1)(ii) This record shall include:

(h)(1)(ii)(A) The name and social security number of the employee;

(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);

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(h)(1)(ii)(C) A copy of all results of examinations, medical testing, and follow-up procedures as required by paragraph (f)(3);

(h)(1)(ii)(D) The employer's copy of the healthcare professional's written opinion as required by paragraph (f)(5); and

(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).

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

(h)(1)(iii)(A) Kept confidential; and

(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.

(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.

(h)(2) Training Records.

(h)(2)(i) Training records shall include the following information:

(h)(2)(i)(A) The dates of the training sessions;

(h)(2)(i)(B) The contents or a summary of the training sessions;

(h)(2)(i)(C) The names and qualifications of persons conducting the training; and

(h)(2)(i)(D) The names and job titles of all persons attending the training sessions.

(h)(2)(ii) Training records shall be maintained for 3 years from the date on which the training occurred.

(h)(3) Availability.

(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.

(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.

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(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.

(h)(4) Transfer of Records.

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

(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.

(h)(5) Sharps Injury Log.

(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:

(h)(5)(i)(A) the type and brand of device involved in the incident,

(h)(5)(i)(B) the department or work area where the exposure incident occurred, and

(h)(5)(i)(C) an explanation of how the incident occurred.

(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.

(h)(5)(iii) The sharps injury log shall be maintained for the period required by 29 CFR 1904.6.

(i) Dates -

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

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

(i)(3) Paragraph (g)(2) Information and Training and (h) Recordkeeping shall take effect on or before June 4, 1992.

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(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]

APPENDIX A

TO SECTION 1910.1030 - HEPATITIS B DECLINATION (MANDATORY)

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

BIOHAZARDOUS SPILL CLEAN-UP GUIDELINES

I. Introduction

The National Institutes of Health's Guidelines for Research Involving Recombinant DNA Molecules calls for institutions using recombinant DNA technology to adopt emergency plans for accidental spills and worker contamination. These guidelines are written to meet this responsibility.

The proper emergency response to a spill or release depends on the hazard of the biological agent and chemical, the volume of the material, and the location of the incident.

Each lab and department must be prepared to contain and decontaminate spills they might generate. Preparedness includes knowledge of procedures and available personal protective equipment, and having spill clean up materials, and an ample supply of chemical decontaminant.

II. Definitions

A. Biohazard

1. Hazardous biological materials such as infectious agents (substances from or of biological origin) and substances actually or potentially contaminated with them.
2. Human blood, human blood components, and products made from human blood; potentially infectious body fluids and materials including: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental situations, any body fluid with visible blood, and all body fluids where it is difficult or impossible to differentiate between body fluids; any unfixed tissue or organ (other than intact skin) from a human (living or dead); and human sourced cell or tissue cultures, organ cultures, culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with human pathogens.

B. Large Spill

A spill with aerosols generated, a spill of an agent requiring biosafety level 2 containment or greater, and/or a spill of a large volume or of an infectious agent that constitutes a large risk.

III. Initial Emergency Procedures

A. Render assistance to persons involved and remove them from exposure to further injury if necessary. Do not move an injured person who is not in danger of further harm.

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Aerosols will be generated in spills occurring in the operation of centrifuges, sonicators, homogenizers, mixers, etc.

B. Call Environmental Health and Safety (766-3277) if:

- a. The spill is health threatening.
- b. Trained people and/or proper cleanup equipment are not available.
- c. You want advice.

C. Large Spill

1. Leave area and close door to allow aerosols to settle for 20-30 minutes.
2. Call 911.
3. Turn off room ventilation and evacuate building if appropriate. Know ahead of time your building's procedures for turning off ventilation. A call to Physical Plant may be needed or in some buildings simply pull the fire alarm to shut down ventilation.

D. Small Spill

1. Warn workers in adjacent areas of any potential hazards to their safety.
- 2.. Render immediate first aid.
- 3.. In case of fire, call the fire department (911).
4. In medical emergency, summon medical help immediately (911).

IV. Spill Clean Up

A. Spill Kit Contents

1. Disinfectant (e.g. bleach)
2. Absorbent Materials (e.g. paper towels)
3. Waste Container (e.g. biohazard bags, sharps containers)
4. Personal Protective Equipment (e.g. lab coat, gloves, eye and face protection)
5. Mechanical Tools (e.g. autoclavable forceps, dustpan and broom)

B. Spill Clean Up Guidelines for Biological Agents

1. Biohazardous Spill Outside a Biological Safety Cabinet
 - a. Ensure biological spill kit is complete before starting the clean up.
 - b. Enter room after 20 to 30 minutes to allow aerosols to settle.

- c. Cover spill with paper towels.
- d. Add disinfectant slowly to outer margin of spill and allow it to flow in. Flood the spill with the appropriate disinfectant using care not to spatter. Allow disinfectant to remain on the spill for the recommended contact time (see disinfectant label for instructions).
- e. Remove broken glassware with forceps or broom and dustpan and dispose in sharps container. Do not pick up any contaminated objects with your hands. Place contaminated but reusable equipment into a container for autoclaving or other decontamination method.
- f. Wipe off any residual spilled material and reapply disinfectant before final clean up. Wipe equipment with compatible disinfectant (e.g. non-corrosive). Rinse with water if necessary.
- g. Dispose of paper towels and other disposable clean up materials into a biohazard bag. Dispose of sharp wastes into a sharps biohazard container. Treat as you would treat your lab's biohazardous waste. If needed call the RMMC (6-3697) for pick-up, treatment and disposal.
- h. Reopen area to general use only after spill clean up and decontamination is complete. Call Physical Plant to return air ventilation to normal settings. Inform all workers and laboratory supervisor about the spill and successful clean up as soon as possible.

2. Biohazardous Spill Inside a Biological Safety Cabinet

Chemical decontamination procedures should be initiated at once while the cabinet continues to operate to prevent escape of contaminants from the cabinet. Be careful with paper towels, which can be sucked into the blower fan or HEPA filters.

- a. The operator should wear gloves, a lab coat and safety glasses during the following procedure. Spray or wipe walls, work surfaces, and equipment with an appropriate disinfectant (e.g., 1:10 dilution of household bleach).
- b. Flood the top work surface tray and the drain pan below the work surface (if there is one) with a disinfectant and allow to stand at least 10 minutes or the recommended contact time listed on the label.
- c. Remove excess disinfectant from the tray by wiping with a sponge or cloth soaked in a disinfectant. For Class II cabinets, drain the tray into the cabinet drain pan, lift out tray and removable exhaust grillwork, and wipe off top and bottom (underside) surfaces with a sponge or cloth soaked in a disinfectant. Then replace the grillwork and drain disinfectant from the drain pan into an appropriate container and autoclave

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according to standard procedures. Place gloves, cloth or sponge into an appropriate container for decontamination.

d. Remove protective clothing used during cleanup and place in a biohazard bag for further processing by laundry (arranged by your department). Run cabinet at least 10 minutes after clean up and before resuming work. Inform all users of the cabinet as well as the laboratory supervisor about the spill and successful clean up as soon as possible.

3. Mixed Chemical and Biohazard Spill

a. Confine spill to a small area while avoiding airborne release to the extent possible.

b. Neutralize or flush with water and follow with cleanup or mopping up.

c. Appropriately decontaminate residue and clean up equipment before disposing as required.

4. Solid Biohazard Spill

a. If low toxicity, carefully slide or sweep the spilled solid into a dustpan.

b. Place in appropriate container for decontamination and dispose of appropriately.

c. Highly hazardous biological solids should be cleaned up with a vacuum cleaner with a HEPA filter. The RMMC can assist cleanup using their HEPA filtered vacuum for hazardous spills. Call 6-3697.

5. Radioactive Biohazardous Spill Outside a Biological Safety Cabinet

The spills of radioactive material are handled in a similar way to spills of infectious agents, except that there is additional concern for the radiation hazard.

a. If the spills created aerosols all persons must leave the room immediately and close the door. Restrict activity to prevent spread of contamination.

b. Take care of medical emergencies first. If health or life-threatening conditions exist, call 911. Decontamination can occur when the victim is in stable condition.

c. Check for contamination of individuals. If contamination is found or suspected, decontaminate as quickly as possible taking into account the amount of contamination, type of radiation and the possibility of internal contamination.

d. Take steps to prevent the spread of contamination including:

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- i. Evacuate the building if there is a possibility of air-borne contamination of a highly hazardous compound (e.g. I125). Call Physical Plant to turn off room ventilation.
 - ii. Prevent entry into the contaminated area by any unnecessary persons.
 - iii. Keep contamination localized.
- e. Notify supervisor, post a temporary warning sign, and warn others not to enter the contaminated area.
- f. Do not let potentially contaminated persons leave without passing a personal survey for radioactive contamination. Remove and put contaminated garments into a container for decontamination and thoroughly wash hands and face.
- g. Notify EHS and the principal user responsible for the workplace as soon as possible. Telephone numbers for work and after-hours are listed on the radiation placard for the workplace. The University Police (911) have an after-hours call list for EHS personnel if the RSO cannot be reached.
- h. Wait thirty minutes to allow dissipation of spill-created aerosols by the room ventilation air changes.
- i. Before clean-up procedures begin, survey the spill for external radiation hazard to determine the relative degree that the exposure levels are within acceptable limits.
- j. Put on a long-sleeve gown with tight fitting cuffs, appropriate respiratory protection, rubber boots or shoe covers, and rubber gloves before reentering the room.
- k. Pour an appropriate disinfectant solution (the disinfecting agent should be selected carefully: for example, hypochlorite will volatilize radioactive iodine) around the spill and allow it to flow into the spill. Paper towels soaked with the disinfectant may be used to cover the area. To minimize aerosolization, avoid pouring the disinfectant solution directly onto the spill.
- l. Let stand at least 10 minutes, depending on the disinfectant, to allow adequate disinfectant contact time.
- m. If the spill involves low energy emitters such as ^{14}C or ^3H , there is no external hazard except if deposited on the skin. If more energetic beta or gamma emitters such as ^{32}P are involved, care must be taken to also prevent hand and body radiation exposure.
- i. Use an autoclavable dustpan and squeegee and forceps for sharp

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materials to transfer all contaminated materials (paper towels, glass, liquid, gloves, etc.) into a biohazard bag lined deep pan.

ii. As a general rule, autoclaving should be avoided. If the Radiation Safety Officer determines that radioactive vapors may be released and thereby contaminate the autoclave, the material must not be autoclaved. In that case, add sufficient disinfectant solution to immerse the contents of the waste container. The cover should be sealed with waterproof tape, stored and handled for disposal as radioactive waste. Radioactive warning symbols shall be affixed to the waste container. After disinfecting is complete and the hazard of the biological agent is removed, all biohazardous labels must be defaced.

n. If autoclaving has been approved, the dustpan, squeegee, and forceps should be placed in an autoclave bag and autoclaved according to standard directions. Contact of reusable items with plastic bags should be avoided -- separation of the plastic after autoclaving can be very difficult.

o. Finally, a final radioactive survey shall be made of the spill area, dustpan, squeegee, and forceps with an appropriate radiation measurement technique.

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