

BLOODBORNE PATHOGENS

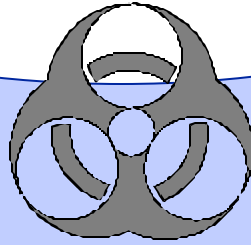


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OBJECTIVES

Upon completion of the course, students will be able to:

- Differentiate between Private and Public OSHA programs,
- List three bloodborne pathogens, their signs and symptoms, and how they are transmitted,
- Understand the purpose for the OSHA standard,
- Identify key elements of a Bloodborne Pathogen Exposure Control Plan,
- Recognize methods of control and their application,
- Determine criteria for occupational exposure, and
- Cite two examples of resources available.

INSTRUCTOR

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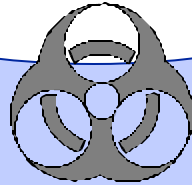
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AGENDA

8:30 AM	Introduction
8:45 AM	Bloodborne Pathogens
	Terminology
	Signs and Symptoms
	Diseases and how they are transmitted
	Comparative Degree of Risk
9:45 AM	BREAK
10:00 AM	Exposure Control
	Rationale for OSHA Standard
	Key elements for an Exposure Control Plan
11:00 AM	BREAK
11:10 AM	Exposure Control, continued
	Employer Responsibility for Employees' Health
	Housekeeping and Maintenance Issues
	Employee Training
	Resources
	Course Evaluation
12:30 PM	DISMISS

BLOODBORNE PATHOGENS



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- Differentiate between Private and Public OSHA programs
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Bloodborne Pathogens

Pathologic organisms present in human

blood that can cause disease in humans



Means of Transmission

- **Unsafe sexual practices**
- **Sharing of needles**
- **Skin punctures or contact with non-intact skin**
- **Exposure to eyes, mouth or nose**
- **Mother to infant**
- **Blood transfusion**



Diseases and how they are transmitted

- Hepatitis B
- Hepatitis C
- HIV
- Malaria
- HIV-2



Signs and Symptoms:

- Nausea
- Lack of appetite
- Fatigue
- Joint pain
- Dark urine
- Jaundice
- Fever



Hepatitis A

- Not bloodborne
- Severity of disease
- Poor sanitation
- Raw seafood
- Daycare centers
- Vaccine



Hepatitis B

- Most common occupationally-acquired infection
- Current number of cases
- Type of workers affected
- Vaccine available
- Outcomes



Hepatitis B

Found in:

- Blood
- Vaginal Secretions
- Semen
- Saliva



Hepatitis C



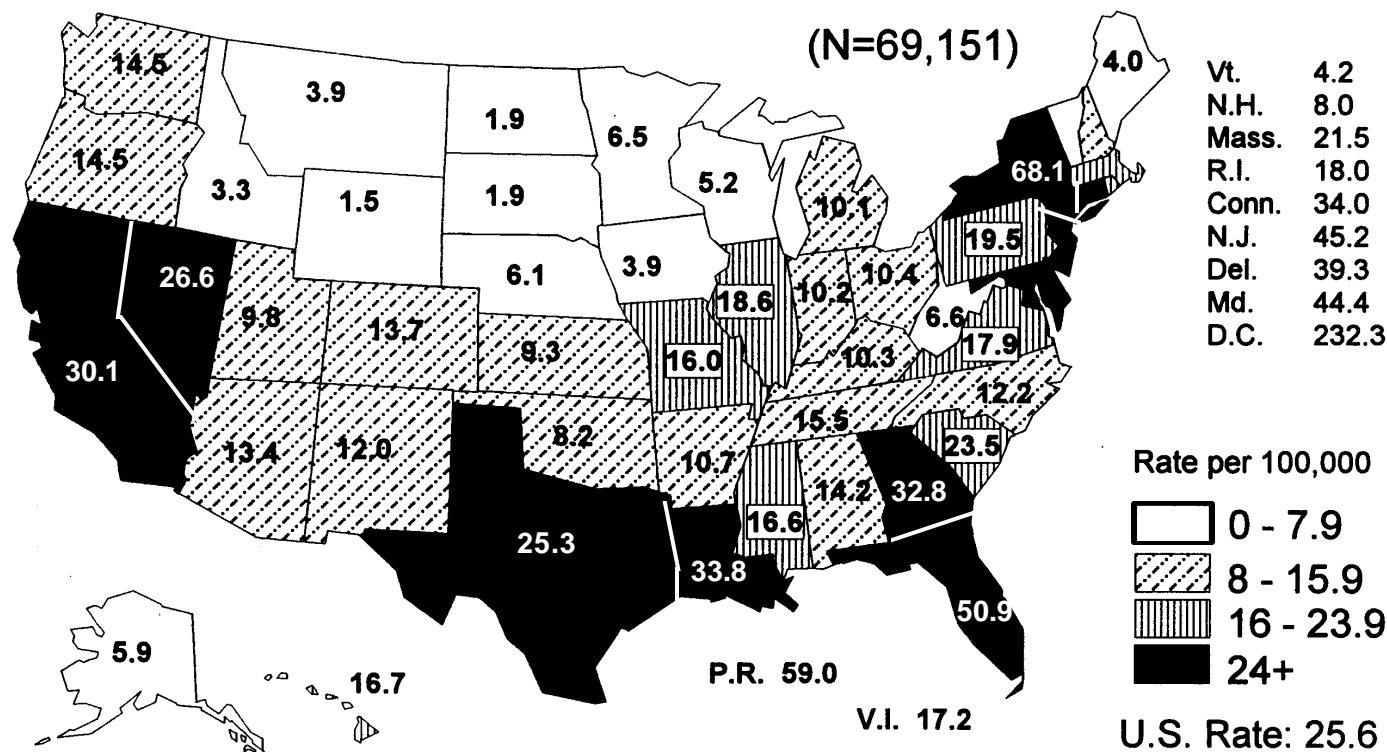
- Previous name
- Blood tests
- Degree of risk
- Current trends for workers
- No vaccine available

HIV



- **History**
- **Statistics**
- **Positive HIV**
- **No vaccine, no cure**
- **Degree of risk**
- **Health care workers**

AIDS Annual Rates per 100,000 Population for Cases Reported in 1996, United States



Ohio Department of Health HIV/AIDS Surveillance
 Source: CDC HIV/AIDS Surveillance Report 12/96

HIV/AIDS EPIDEMIOLOGY HIGHLIGHT
APRIL, 1997
OCCUPATIONAL EXPOSURE TO HIV/AIDS

Introduction

Persons working in a health care setting are at a potential risk for occupational exposure to HIV when they sustain an injury involving blood or other potentially infectious materials. It is estimated that nationally there are 500,000 to 1,000,000 needlestick injuries each year, and that the source patient in 1% of these injuries may be HIV-infected.

Risk for HIV Infection after Occupational Exposure to HIV Infected Blood

To determine the risk for HIV infection after occupational exposure to HIV infected blood, many studies are being conducted worldwide. The Centers for Disease Control and Prevention (CDC) in Atlanta began a national surveillance project in 1983 to assess the risk for HIV infection after occupational exposure to HIV infected blood (1). Health care workers at participating facilities who have a single exposure to HIV infected blood through either a needlestick, a cut from a sharp object, contamination of mucous membranes, or contamination of nonintact skin are voluntarily enrolled in the study. Extensive or prolonged blood contact with intact skin may be considered as an occupational exposure, but intact skin exposures are not enrolled in this study. This study has found the risk of HIV infection after percutaneous exposure (e.g. needlestick, cut from sharp object) to HIV infected blood is approximately 0.3%.

Another study was conducted that examined 23 longitudinal studies that were performed worldwide measuring the magnitude of risk for occupational transmission of HIV-1 (2). All of the studies followed health care workers who reported percutaneous exposures to blood or body fluids from patients known to have HIV-1 infection. These studies included a total of 4867 percutaneous exposures, of which 15 exposures resulted in occupational transmission of HIV infection.

These combined studies found the risk of HIV infection after percutaneous exposure to HIV infected blood is approximately 0.3%. For every 1,000 persons with percutaneous exposures to HIV infected blood, 3 are likely to develop HIV infection.

To identify factors associated with increased risk for HIV transmission after exposure to HIV infected blood, a retrospective case-control study of health care workers was conducted using data reported to national surveillance systems in France, the United Kingdom, and the United States. This case-control study found that the risk for HIV infection following percutaneous exposures to HIV infected blood is increased when the exposure involves a larger quantity of blood such as when the device is visibly contaminated with the patient's blood, the device was placed directly in the source patient's vein or artery, or a deep injury was sustained by the health care worker. A second factor associated with an increased risk for occupational transmission of HIV involved exposures to blood from a source patient who died as a result of AIDS within 60 days of the worker being exposed, and therefore potentially had a higher titer of HIV.

Reduction of Occupational transmission of HIV with Postexposure Prophylaxis

The transmission of HIV infection to a health care worker after an occupational exposure to HIV-infected blood or body fluids can be reduced by as much as 79% with prophylaxis treatment of zidovudine (ZDV) and other antiretroviral drugs (3). These findings are based upon the retrospective case-control study of health care workers who were exposed to HIV infected blood identified through national surveillance systems in France, the United Kingdom, and the United States.

Since zidovudine postexposure prophylaxis was found to reduce the rate of HIV transmission after occupational exposure to HIV infected blood, a Public Health Service interagency working group issued provisional recommendations for the use of ZDV (4). These recommendations state that chemoprophylaxis should be recommended to exposed workers following an exposure associated with the highest risk for HIV transmission. For exposures associated with a lower, but non-negligible risk, post exposure prophylaxis should be offered. Postexposure prophylaxis is not recommended when the exposure has negligible risk, because of the toxicity associated with the treatment.

For a copy of the "Provisional Public Health Service Recommendations for Chemoprophylaxis After Occupational Exposure to HIV" please call the CDC National AIDS Clearinghouse at (800) 458-5231.

Reported Cases of Occupationally Transmitted AIDS and HIV Infection in the United States

In the United States 52 cases of AIDS/HIV infection have been documented as attributed to occupational transmission, and an additional 111 cases are suspected of being related to occupational transmission (5). For cases to be counted as a documented occupational transmission of HIV, there must be documented evidence of HIV seroconversion or other laboratory evidence of occupational infection. For evidence of seroconversion, the health care worker must test negative for HIV at the time of exposure to the HIV infected body fluids and subsequently test positive. Cases classified as possible occupational transmission did not have documented evidence of seroconversion following the occupational exposure, but have been investigated and no behavioral or transfusion risks were identified. None of the U.S. documented possible occupational transmissions are among Ohioans. There have been cases of HIV/AIDS in Ohio with potential occupational exposure who have been or are under investigation to determine if they became HIV infected through occupational transmission, but to date no cases have been confirmed as documented or possible occupational transmissions. However, there are HIV positive health care workers in Ohio who became infected through non-occupational routes.

Of the 52 documented occupational transmission cases in the U.S., 45 had a percutaneous exposure, 5 had a mucotaneous exposure, one had both percutaneous and mucotaneous exposures, and one had an unknown route of exposure. Forty-seven of the exposures where to blood from an HIV-infected person, one exposure was laboratory. Twenty four of these health care workers have developed AIDS.

Workers in Health Care Setting with Documented and Possible Occupationally Acquired AIDS/HIV Infection, by Occupation Reported through December 31, 1996, United States

Occupation	Documented Occupational Transmission	Possible Occupational Transmission
Dental worker, including dentist	-	7
Embalmer/morgue technician	-	3
Emergency medical technician/paramedic	-	10
Health aide/attendant	1	12
Housekeeper/maintenance worker	1	7
Laboratory technician, clinical	16	16
Laboratory technician, nonclinical	3	--
Nurse	21	28
Physician, nonsurgical	6	11
Physician, surgical	-	6
Respiratory therapist	1	2
Technician, dialysis	1	2
Technician, surgical	2	1
Technician/therapist, other than those listed above	-	5
Other health care occupations	-	1
TOTAL	52	111

Discussion

Adherence to universal precautions minimizes occupational contact with HIV. Research shows that when occupational exposure occurs, transmission of HIV is low, and this risk can be further reduced with postexposure prophylaxis treatment. Response to occupational exposures may include assessing the source patient's HIV status, testing the worker for HIV at baseline, and treating the worker with postexposure prophylaxis.

If you have any questions on the data presented in this report, please call the Ohio Department of HIV/AIDS Surveillance at (614) 466-1388 or if you have any questions about occupational issues, please call the Occupational Health Program at (614) 466-4183.

References

1. Tokars, JI, Marcus R, Culver DH, et al. Surveillance of HIV infection and Zidovudine use among health care workers after occupational exposure to HIV-infected blood. *Ann Intern Med* 1993;118:913-9.
2. Henderson DK. HIV-1 in the health care setting. In: Principles and practice of infectious diseases. 4th ed. Mandel G, Bennett JE, Dolan R, eds. New York: Churchill Livingstone, 1995:2632-56.
3. CDC. Case-control study of HIV seroconversion in health-careworkers after percutaneous exposure to HIV-infected blood - France, United Kingdom, and United States, January 1988-August 1994. *MMWR* 1995;44:929-33.

4. CDC. Update: Provisional Public Health Service Recommendations for Chemoprophylaxis after occupational exposure to HIV. MMWR 1996;45:468-72.5.
5. CDC. HIV/AIDS Surveillance Report. December 1996;8:21

HIV Signs & Symptoms

(many have all, none, or some)

- Night sweats
- Swollen glands
- Fever, chills
- Flu-like
- Joint Pain
- Fatigue
- Rash



Exposure Control



Consulting Agencies

Division of Safety & Hygiene

Ohio Department of Health

Enforcement Agencies

Public

PERRP

- city
- county
- state
- schools
- parks

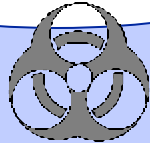
Private

OSHA

- business
- manufacturing
- most hospitals



Key elements for an Exposure Control Plan



Employees at Risk

- **Employees whose duties put them at risk**
- **Employers responsible for deciding**



Occupational Exposure

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



Semen

Vaginal Secretions

Sterile body fluids

“Visibly” soiled

DOES NOT INCLUDE:

- Sputum

- Sweat, Tears, Urine/Feces

- Vomitus

- Nasal Secretions

Collateral Duties

First Aid Providers

- **Federal Coverage**
Exposure
- **State Coverage**
Exposure Incident



Hierarchy of Control

- **Engineering controls**
- **Work Practice controls**
- **Personal Protective Equipment**



Methods of Control

(1) Engineering controls



Methods of Control (cont.)

(2) Work Practice Controls

- **Hand-washing**
 - soap selection
 - alternatives
- **Universal Precautions**



Universal Precautions

An approach to infection control. All human blood and certain body fluids are treated as if known to be infectious.



Methods of Control (cont.)

(3) Personal Protective Equipment

- Selection
- Adequate fit
- Maintenance
- Latex sensitivity



Gloves

- Disposable - not reused
- Change if torn or punctured
- Awareness of latex allergic reactions
- Use of utility gloves



Employer Responsibility for Employees' Health



Hepatitis B Vaccine

- **Background**
- **Series of shots**
- **Employees affected**
- **Refusal form**
- **Side effects**
- **Counterindications**
- **How to access medical services**



Post-exposure follow-up

- Definition of “exposure”
- Selecting medical service
- Informing the employee
- Recordkeeping
- Confidentiality of results



Exposure Incident



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

Housekeeping and Maintenance Issues



- Labeling
- Laundry
- Wastes
 - Concerns of EPA and OSHA
 - Packaging and labeling
 - Large versus small generator

Blood spill clean-up



- Educating employees
- Equipment used
- Analyzing your needs
- Purchasing appropriately
- Approved disinfectants

Employee Training



- Who needs it
- Timely delivery
- Annual updates
- Convenient for employee
- Evaluating your audience

Training Program Requirements



- Copy of standard
- Signs and symptoms of BBP
- Mode of transmission
- Presenting the exposure control plan
- How to identify workers at risk
- Engineering controls
- Work Practice controls

Training Program Requirements (Cont.)

- PPE
- Universal precautions
- Hepatitis B vaccine
- Post-exposure follow-up
- Labeling
- Housekeeping and maintenance
- Interactive delivery by knowledgeable instructor



Teaching Considerations

- Field experience increases credibility
- Research time involved
- Adult has about a 23-minute attention span
- Audience participation helps
- Know your audience



Remember ...



OSHA does not approve or endorse any products, training programs, or forms.

Resources



- **National**
- **State**
- **Local**
 - **Hospitals**
 - **Health Departments**
- **Media available (books, videos, pamphlets)**
- **Resource Centers**
- **Division of Safety & Hygiene consultants**

**OSHA**Occupational Safety & Health Administration
U.S. Department of LaborHome
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Search

Regulations (Standards - 29 CFR)

Bloodborne pathogens. - 1910.1030

[◀ OSHA Regulations \(Standards - 29 CFR\) - Table of Contents](#)

- **Standard Number:** 1910.1030
 - **Standard Title:** Bloodborne pathogens.
 - **SubPart Number:** Z
 - **SubPart Title:** Toxic and Hazardous Substances
-

Interpretation(s)

(a)

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

(b)

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

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

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

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

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

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

item or surface.

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

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

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

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

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

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

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

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

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

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

(1) The collection of bodily fluids or withdrawal of body fluids after initial venous or arterial access is established; (2) The administration of medication or fluids; or (3) Any other procedure

involving the potential for occupational exposure to bloodborne pathogens due to percutaneous injuries from contaminated sharps.

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

Other Potentially Infectious Materials means (1) The following human body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids; (2) Any unfixed tissue or organ (other than intact skin) from a human (living or dead); and (3) HIV-containing cell or tissue cultures, organ cultures, and HIV- or HBV-containing culture medium or other solutions; and blood, organs, or other tissues from experimental animals infected with HIV or HBV.

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

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

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

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

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

Sharps with engineered sharps injury protections means a nonneedle sharp or a needle device used for withdrawing body

fluids, accessing a vein or artery, or administering medications or other fluids, with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

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

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

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

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

(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),

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

(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) (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)

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

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

(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 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.

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

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

(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)

Leakproof 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 benchtops where blood or other potentially infectious materials are present.

..1910.1030(d) (2) (xi)**(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 handling, processing, storage, transport, or shipping and is labeled or color-coded according to the requirements of this standard.

..1910.1030(d) (2) (xiii) (C)**(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 judgement, 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.

(d)(3)(iv)

Cleaning, Laundering, and Disposal. The employer shall clean,

launder, and dispose of personal protective equipment required by paragraphs (d) and (e) of this standard, at no cost to the employee.

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

(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.

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

(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

(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.

..1910.1030(d) (3) (x)**(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, orthopaedic 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.

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

(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.

(d)(4)(ii)(B)

Protective coverings, such as plastic wrap, aluminum foil, or imperviously-backed absorbent paper used to cover equipment and environmental surfaces, shall be removed and replaced as soon as feasible when they become overtly contaminated or at the end of the workshift if they may have become contaminated during the shift.

(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 dust pan, 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 --

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

(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)

Leakproof 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.

(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

(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.

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

(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.

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

(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:

(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.

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

(e)(2)(ii)(B)

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

(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.

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

(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.

(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.

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

..1910.1030(e)(3)(i)**(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 other areas or activities may also be provided by a double-doored clothes-change room (showers may be included), airlock, or other access facility that requires passing through two sets of doors before entering the work area.

(e)(4)(ii)

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

..1910.1030(e)(4)(iii)**(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 --

..1910.1030(f)(1)

(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

(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.

..1910.1030(f) (2)**(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;

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

(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.

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

(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;

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

(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.

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

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

Red bags or red containers may be substituted for labels.

(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.)

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

(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.

(g) (2) (iv)

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

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

(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;

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

(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;

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

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

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

(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.

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

(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

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

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

(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.

(h) (3) (iii)

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

..1910.1030(h) (4)**(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.

(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]

◀ [OSHA Regulations \(Standards - 29 CFR\) - Table of Contents](#)

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Regulations (Standards - 29 CFR)

Medical services and first aid. - 1910.151

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- **Standard Number:** 1910.151
 - **Standard Title:** Medical services and first aid.
 - **SubPart Number:** K
 - **SubPart Title:** Medical and First Aid
-

Interpretation(s)

(a)

The employer shall ensure the ready availability of medical personnel for advice and consultation on matters of plant health.

(b)

In the absence of an infirmary, clinic, or hospital in near proximity to the workplace which is used for the treatment of all injured employees, a person or persons shall be adequately trained to render first aid. Adequate first aid supplies shall be readily available.

(c)

Where the eyes or body of any person may be exposed to injurious corrosive materials, suitable facilities for quick drenching or flushing of the eyes and body shall be provided within the work area for immediate emergency use.

[63 FR 33450, June 18, 1998]

◀ [OSHA Regulations \(Standards - 29 CFR\) - Table of Contents](#)

Interpretations of the Bloodborne Pathogens Standard

Designated First Aid Providers

If an employee is trained in first aid and designated by the employer as responsible for rendering medical assistance as part of his/her job duties, that employee is covered by all requirements of the standard, including hepatitis B vaccination, post exposure incident follow-up, training, and personal protective equipment.

Keep in mind that simply training employees in first aid or CPR does not invoke coverage by this standard; rather, it is the designation of the employee as responsible for rendering medical assistance as part of his or her job duties.

Employees who perform "Good Samaritan" acts are not, per se, covered by this standard, although OSHA would encourage an employer to offer follow-up procedures to an employee who experiences an exposure incident as the result of performing a "Good Samaritan" act. This is because such an action does not constitute "occupational exposure", as defined by the standard.

The key to this issue is not whether employees have been trained in first aid, but whether they are also designated as responsible for rendering medical assistance. For instance, while all line workers may be trained in first aid and CPR, not all of these employees would necessarily be designated to render first aid. For example, a stable six-person crew could have two of the six employees designated to render medical assistance and also to be covered by the benefits of 29 CFR 1910.1030.

Coverage of Construction Employees

While OSHA did announce that the bloodborne pathogens standard would not apply to the construction industry, OSHA did not state that the construction industry was free from the hazards of bloodborne pathogens. Section 5(a)(1) of the Occupational Safety and Health Act, also known as the General Duty Clause, requires employers to furnish a workplace which is free from recognized hazards which may cause or are likely to cause death or serious physical harm. Therefore, the General Duty Clause will not be used to cite for violations of the bloodborne pathogens rule, but for failure to provide a workplace free from bloodborne pathogens.

Food Prohibited in Areas of Potential Contamination

Paragraph (d)(2)(ix) prohibits the consumption of food and drink in areas in which work involving exposure or potential exposure to blood or other potentially infectious materials exists, or where the potential for contamination of work surfaces exists.

The prohibition against eating and drinking in such a work area is consistent with other OSHA standards and is good industrial hygiene practice.

In addition to contamination of the food itself, one must consider that food and beverage containers may also become contaminated, resulting in unsuspected contamination of the hands. Food and drink may be contaminated by such processes as the leakage or spillage of specimen containers, or the performance of activities that could generate splashes, sprays, or droplets of blood or other potentially infectious materials.

Cleaning, Laundering, and Disposal of Personal Protective Equipment

The standard requires the provision and laundering only of garments that are personal protective equipment (PPE). If an employee's uniform does not serve as PPE, and if the employee has occupational exposure which requires additional PPE to protect their uniform, then the uniform would not be covered

by the standard - the protective garments would be covered. If, however, a uniform provides an appropriate level of protection for workplace conditions and is worn, relied upon, and/or functions as a protective garment, the uniform would be covered by the standard. In either case, the protective garments must be provided, laundered, repaired, and replaced by the employer in accordance with paragraph (d)(3)(i), (ii), (iii), (iv), and (v) of the standard.

Laboratory coats and other contaminated PPE may be laundered by a dry cleaner, provided that the workers doing so are appropriately trained in the handling of such laundry and provided with protective gloves and other appropriate protective equipment.

OSHA prohibits "home-laundering" of contaminated laundry by employees as the employer has responsibility to provide laundering under the standard and the workplace does not extend to employees' homes.

Changing Gloves Between Patients

OSHA requires that disposable gloves be changed as soon as practical when contaminated and as soon as feasible when they are torn or punctured. These requirements protect the employee from exposure to the hazards of bloodborne pathogens. OSHA does not require that gloves be changed between patients if they are not contaminated and their barrier properties are not compromised. Please bear in mind that the term "contaminated" is defined as the presence or the reasonable anticipated presence of blood or other potentially infectious materials rather than "visibly" contaminated.

Disinfectant Solutions

Paragraph 29 CFR 1910.1030(d)(4)(ii)(A) states that ". . . an appropriate disinfectant. . ." shall be used for decontamination of work surfaces contaminated with blood or other potentially infectious material. The current OSHA policy regarding acceptability of disinfectants used for this purpose is stated in the Inspection and Citation Guidelines following paragraph M.4.d.(1)(b) on page 34 of the OSHA Instruction CPL 2-2.44C "Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens Standard, 29 CFR 1910.1030." This policy indicates that products registered with U.S. Environmental Protection Agency (EPA) with claims of tuberculocidal efficacy are considered "appropriate" for purposes of compliance with the standard, and would therefore be acceptable for such use.

The use of quaternary ammonia compounds is appropriate for housekeeping procedures which do not involve the clean-up of contaminated (defined as the presence or reasonable anticipated presence of blood or other potentially infectious materials) surfaces.

A solution of 5.25 percent sodium hypochlorite (household bleach) diluted between 1:10 and 1:100 with water is also acceptable for the cleanup of contaminated items or surfaces.

Hepatitis B Vaccination

Appendix A of the standard, which specifies the declination form to be used, is a mandatory appendix. The declination statement used by the employer must contain the same language as that found in appendix A; that is, no words may be added or subtracted. The addition of a sentence releasing the hospital from liability would further constitute a violation of OSHA requirements due to the fact that employees have a right to receive free hepatitis B vaccines regardless of whether or not they waive liability.

Reference: "Occupational Safety and Health Administration Directorate of Compliance Programs Occupational Exposure to Bloodborne Pathogens Interpretive Quips(IQs) June 1993 Version"

The previous information is a short summary of a few of the interpretations made on the standard. If a situation in question does not appear in this summary, it is recommended that the employer contact OSHA directly or seek other professional assistance.

**Occupational Safety and Health
Administration**

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FOR RELEASE: IMMEDIATE
Mon., July 6, 1992

**FIRST AID PROVIDERS MAY RECEIVE HEPATITIS B VACCINE UPON
EXPOSURE, OSHA SAYS**

The U.S. Labor Department's Occupational Safety and Health Administration (OSHA) today announced it will allow employers to offer hepatitis B vaccinations to certain employees after they've given first aid rather than offering pre-exposure vaccinations.

Based on the low risk of exposure for these first aid providers, OSHA believes that post-exposure prophylaxis, including hepatitis B vaccination within 24 hours of possible exposure, both minimizes the risk to employees and lessens demands on limited supplies of the vaccine.

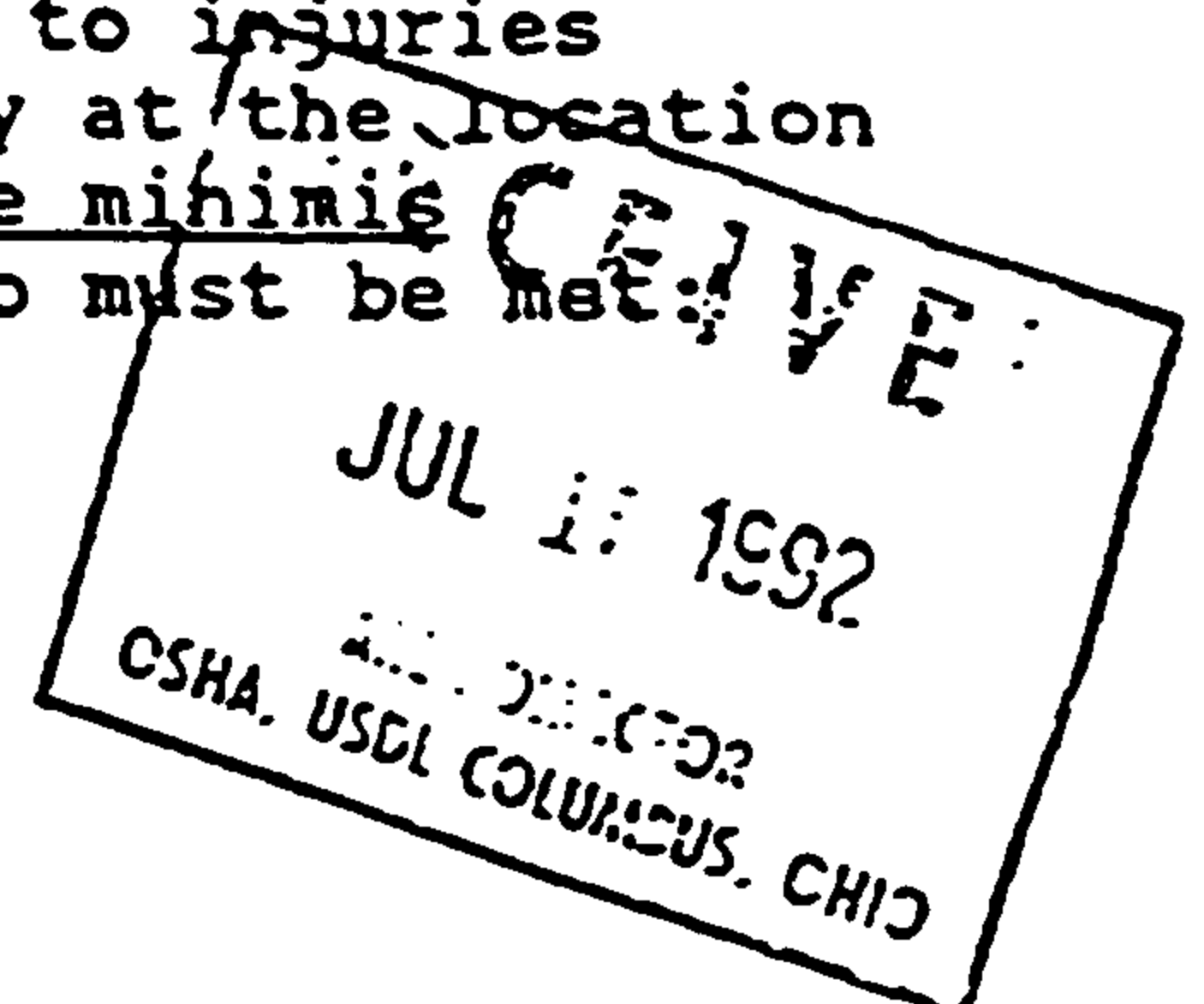
OSHA is revising the inspection directive issued under its bloodborne pathogens standard. OSHA will consider it a de minimis violation--a technical violation carrying no penalties--if employees who administer first aid as a collateral duty to their routine work assignment are not offered the hepatitis B vaccination until they give aid involving blood or other potentially infectious materials. In these circumstances, no citations will be issued.

All other requirements of the standard apply to employers with employees who are designated to render first aid on the job.

The de minimis classification for failure to offer hepatitis B vaccination in advance of exposure would NOT apply to personnel who provide first aid at a first aid station, clinic or dispensary or to health care, emergency response or public safety personnel expected to render first aid in the course of their work.

Exceptions would be limited to persons who render first aid only as a collateral duty, responding solely to injuries resulting from workplace incidents, generally at the location where the incident occurred. To merit the de minimis classification, the following conditions also must be met:

-more-



-- Reporting procedures must be in place under the exposure control plan to ensure that all first aid incidents involving exposure are reported to the employer before the end of the work shift during which the incident occurs.

-- Reports of first aid incidents must include the names of all first aid providers and a description of the circumstances of the accident, including date and time as well as a determination of whether an exposure incident, as defined in the standard, has occurred.

-- Exposure reports must be included on a list of such first aid incidents that is readily available to all employees and provided to OSHA upon request.

-- First aid providers must receive training under the bloodborne pathogens standard that covers the specifics of the reporting procedures.

-- All first aid providers who render assistance in any situation involving the presence of blood or other potentially infectious materials, regardless of whether or not a specific exposure incident occurs, must be offered the full immunization series--as soon as possible but in no event later than 24 hours. If an exposure incident as defined in the standard has taken place, other post-exposure follow-up procedures must be initiated immediately, per the requirements of the standard.

The new policy is effective immediately.

* * *

The text of this news release is available from the Department of Labor electronic bulletin board, LABOR NEWS. User costs are limited to a toll call. LABOR NEWS Phone: 202-523-4784; 1200 or 2400 BAUD; Parity: None; Data Bits=8; Stop Bit=1; Voice phone 202-523-7343.

This information will be made available to sensory impaired individuals upon request. Voice phone: 202-523-8151. TDD message referral phone: 1-800-326-2577.

BLOODBORNE PATHOGENS TERMINOLOGY

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

Engineering Controls means controls (e.g., sharps disposal container, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

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

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

Licensed Healthcare Professional is a person whose legally permitted scope of practice allows him or her to independently perform the activities required by paragraph

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

BLOODBORNE PATHOGENS TERMINOLOGY

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 to differentiate between body fluids;
- (2) any unfixed tissue or organ (organ than intact skin) from a human living or dead; and
- (3) HIV-containing cell or tissue culture, 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 membrane or the skin barrier through such events as needlesticks, human bites, cuts, and abrasions.

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

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

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

Research Laboratory means laboratory producing or using research laboratory-scale amounts of HIV or HBV but not in the volume found in production facilities.

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. Example 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 hospice and nursing homes; human remains; and individuals who donate or sell blood or blood components.

BLOODBORNE PATHOGENS TERMINOLOGY

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 infectious control. According to the concept of Universal Precaution 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.)

Exposure Control Plan Each employer having an employee with occupational exposure shall establish a written exposure control plan designed to eliminate or minimize employee exposure.

SAMPLE PLAN

Note: This sample plan is provided only as a guide in complying with 29 CFR 1910.1030, OSHA's Bloodborne Pathogens standard. It is not intended to supersede the requirements detailed in the standard. Employers should review the standard for particular requirements which are applicable to their specific situation. It should be noted that this model program does not include provision for HIV/HBV laboratories and research facilities which are addressed in section (e) of the standard. Employers operating these laboratories need to include provisions as required by the standard. Employers will need to add information relevant to their particular facility in order to develop an effective, comprehensive exposure control plan expected to be reviewed at least on an annual basis and updated when necessary.

BLOODBORNE PATHOGENS EXPOSURE CONTROL PLAN

Facility Name: _____

Date of Preparation: _____

In accordance with the OSHA Bloodborne Pathogens standard, 29 CFR 1910.1030, the following exposure control plan has been developed.

1. Exposure Determination

OSHA requires employers to perform an exposure determination concerning which employees may incur occupational exposure to blood or other potentially infectious materials. The exposure determination is made without regard to the use of personal protective equipment (i.e. employees are considered to be exposed even if they wear personal protective equipment.) This exposure determination is required to list all job classifications in which all employees may be expected to incur such occupational exposure, regardless of frequency. At this facility the following job classifications are in this category:

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

Job Classification

Tasks/Procedures

2. Implementation Schedule and Methodology

SAMPLE PLAN

OSHA also requires that this plan also include a schedule and method of implementation for the various requirements of the standard. The following complies with this requirement:

Compliance Methods

Universal precautions will be observed at this facility in order to prevent contact with blood or other potentially infectious materials. All blood or other potentially infectious material will be considered infectious regardless of the perceived status of the source individual.

Engineering and work practice controls will be utilized to eliminate or minimize exposure to employees at this facility. Where occupational exposure remains after institution of these controls, personal protective equipment shall also be utilized:

(list controls, such as sharps containers, etc.)

The above controls will be examined and maintained on a regular schedule. The schedule for reviewing the effectiveness of the controls is as follows: *(list schedule such as daily, one/week, etc. as well as list who has responsibility to review the effectiveness of the individual controls, such as the supervisor for each department, etc.)*

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

(list locations, such as patient rooms, procedure area, etc. If handwashing facilities are not feasible, the employer is required to provide either an antiseptic cleanser in conjunction with a clean cloth/paper towels or antiseptic towelettes. If these alternatives are used then the hands are to be washed with soap and running water as soon as feasible. Employers who must provide alternatives to readily accessible handwashing facilities should list the location, tasks, and responsibilities to ensure maintenance and accessibility of these alternatives.)

After removal of personal protective gloves, employees shall wash hands and any other potentially contaminated skin area immediately or as soon as feasible with soap and water.

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

Needles

Contaminated needles and other contaminated sharps will not be bent, recapped, removed, sheared, or purposely broken. OSHA allows an exception to this if the procedure would require that the contaminated needle be recapped or removed and no alternative is feasible and the action is required by the medical procedure. If such action is required then the recapping or removal of the needle must be

SAMPLE PLAN

done by the use of a mechanical device or a one-handed technique. At this facility recapping or removal is only permitted for the following procedures:

(list the procedures and also list the mechanical device to be used or alternately if a one-handed technique will be used.)

SAMPLE PLAN

Work Area Restrictions

In work areas where there is a reasonable likelihood of exposure to blood or other potentially infectious materials, employees are not to eat, drink, apply cosmetics or lip balm, smoke, or handle contact lenses. Food and beverages are not to be kept in refrigerators, freezers, shelves, cabinets, or on counter tops or bench tops where blood and other potentially infectious materials are present.

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

All procedures will be conducted in a manner which will minimize splashing, spraying, splattering, and generation of droplets of blood or other potentially infectious materials. Methods which will be employed at this facility to accomplish this goal are:

(list methods, such as covers on centrifuges, usage of dental dams if appropriate, etc.)

Specimens

Specimens of blood or other potentially infectious materials will be placed in a container which prevents leakage during the collection, handling, processing, storage, and transport of the specimens.

The container used for this purpose will be labeled or color coded in accordance with the requirements of the OSHA standard. *(Employers should note that the standard provides an exemption for specimens from the labeling/color coding requirement of the standard provided that the facility utilized universal precautions in the handling of all specimens and the containers are recognizable as containing specimens. This exemption applies only while the specimens remain in the facility. If the employer chooses to use this exemption then it should be stated here.)*

Any specimens which could puncture a primary container will be placed within a secondary container which is puncture resistant. *(The employer should list here how this will be carried out, e.g. which specimens, if any, could puncture a primary container, which containers can be used as secondary containers and where the secondary containers are located at the facility.)*

If outside contamination of the primary container occurs, the primary container shall be placed within a secondary container which prevents leakage during the handling, processing, storage, transport, or shipping of the specimen.

Contaminated Equipment

Equipment which has 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 decontamination of the equipment is not feasible. *(Employers should list here any equipment which it is felt can not be decontaminated prior to servicing or shipping.)*

SAMPLE PLAN

Personal Protective Equipment

All personal protective equipment used at this facility will be provided without cost to employees. Personal protective equipment will be chosen based on the anticipated exposure to blood or other potentially infectious materials. The protective equipment will be considered appropriate only if it does not permit blood or other potentially infectious materials to pass through or reach the employees' clothing, skin, eyes, mouth, or other mucous membranes under normal conditions of use and for the duration of time which the protective equipment will be used. Protective clothing will be provided to employees in the following manner: *(List how the clothing will be provided to employees, e.g. who has responsibility for distribution, etc. and also list which procedures would require the protective clothing and the type of protection required, this could also be listed as an appendix to this program)*

(The employer could use a checklist as follows:

Personal Protective Equipment Task

Gloves

Lab Coat

Face Shield

Clinic Jacket

Protective Eyewear
(with solid side shield)

Surgical Gown

Shoe Covers

Utility Gloves

Examination Gloves

Other PPE (list)

All personal protective equipment will be cleaned, laundered, and disposed of by the employer at no cost to employees. All repairs and replacement will be made by the employer at no cost to employees.

SAMPLE PLAN

All garments which are penetrated by blood shall be removed immediately or as soon as feasible. All personal protective equipment will be removed prior to leaving the work area. The following protocol has been developed to facilitate leaving the equipment at the work area: (list where employees are expected to place the personal protective equipment upon leaving the work area, and other protocols, etc.) _____

Gloves shall be worn where it is reasonably anticipated that employees will have hand contact with blood, other potentially infectious materials, non-intact skin, and mucous membranes. Gloves will be available from *(state location and/or person who will be responsible for distribution of gloves)*

Gloves will be used for the following procedures: _____

Disposable gloves used at this facility are not to be washed or decontaminated for re-use and are to be replaced as soon as practical when they become contaminated or as soon as feasible if they are torn, punctured, or when their ability to function as a barrier is compromised. Utility gloves may be decontaminated for re-use provided that the integrity of the glove is not compromised. Utility gloves will be discarded if they are cracked, peeling, torn, punctured, or exhibit other signs of deterioration or when their ability to function as a barrier is compromised.

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

The OSHA standard also requires appropriate protective clothing to be used, such as lab coats, gowns, aprons, clinic jackets, or similar outer garments. The following situations require that such protective clothing be utilized:

This facility will be cleaned and decontaminated according to the following schedule: *(list area and schedule)*

Decontamination will be accomplished by utilizing the following materials: *(list the materials which will be utilized, such as bleach solutions or EPA registered germicides)*

All contaminated work surfaces will be decontaminated after completion of procedures and immediately or as soon as feasible after any spill of blood or other potentially infectious materials, as well as the end of the work shift if the surface may have become contaminated since the last cleaning. (Employers should add any information concerning the usage of protective covering, such as plastic wrap which may be used to assist in keeping surfaces free of contamination.)

SAMPLE PLAN

All bins, pails, cans, and similar receptacles shall be inspected and decontaminated on a regularly scheduled basis (*list frequency and by whom _____*)

Any broken glassware which may be contaminated will not be picked up directly by hand. The following procedures will be used:

Regulated Waste Disposal

All contaminated sharps shall be discarded as soon as feasible in sharps containers which are located in the facility. Sharps containers are located in (*specify locations of sharps containers*).

Regulated waste other than sharps shall be placed in appropriate containers. Such containers are located in (*specify locations of containers*).

Laundry Procedures

Laundry contaminated with blood or other potentially infectious materials will be handled as little as possible. Such laundry will be placed in appropriately marked bags at the location where it was used. Such laundry will not be sorted or rinsed in the area of use.

All employees who handle contaminated laundry will utilize personal protective equipment to prevent contact with blood or other potentially infectious materials.

Laundry at this facility will be cleaned at _____. (*Employers should note here if the laundry is being sent off site. If the laundry is being sent off site, then the laundry service accepting the laundry is to be notified, in accordance with section (d) of the standard.*)

Hepatitis B Vaccine

All employees who have been identified as having exposure to blood or other potentially infectious materials will be offered the Hepatitis B vaccine, at no cost to the employee. The vaccine will be offered within 10 working days of their initial assignment to work involving the potential for occupational exposure to blood or other potentially infectious materials unless the employee has previously had the vaccine or who wishes to submit to antibody testing which shows the employee to have sufficient immunity.

Employees who decline the Hepatitis B vaccine will sign a waiver which uses the wording in Appendix A of the OSHA standard.

Employees who initially decline the vaccine but who later wish to have it may then have the vaccine provided at no cost. (*Employers should list here who has responsibility for assuring the vaccine is offered, the waivers are signed, etc. Also the employer should list who will administer the vaccine.*)

SAMPLE PLAN

Post-Exposure Evaluation and Follow-up

When the employee incurs an exposure incident, it should be reported to *(list who has responsibility to maintain records of exposure incidents)*: _____

All employees who incur an exposure incident will be offered post-exposure evaluation and follow-up in accordance with the OSHA standard.

The follow-up will include the following:

- documentation of the route of exposure and the circumstances related to the incident.
- if possible, the identification of the source individual, and if possible, the status of the source individual. The blood of the source individual will be tested (after consent is obtained) for HIV/HBV infectivity.
- results of testing of the source individual will be made available to the exposed employee with the exposed employee informed about the applicable laws and regulations concerning disclosure of the identity and infectivity of the source individual. *(Employers may need to modify this provision in accordance with applicable local laws on this subject. Modifications should be listed here: _____)*
- The employee will be offered the option of having his/her blood collected for testing of the employee's HIV/HBV serological status. The blood sample will be preserved for up to 90 days to allow the employee to decide if the blood should be tested for HIV serological status. However, if the employee decides prior to that time that testing will or will not be conducted then the appropriate action can be taken and the blood sample discarded.
- The employee will be offered post exposure prophylaxis in accordance with the current recommendations of the U.S. Public Health Service. These recommendations are currently as follows: *(these recommendations may be listed as an appendix to the plan)*
- The employee will be given appropriate counseling concerning precautions to take during the period after the exposure incident. The employee will also be given information on what potential illnesses to be alert for and to report any related experiences to appropriate personnel.
- The following person(s) has been designated to assure that the policy outlined here is effectively carried out as well as to maintain records related to this policy: _____

SAMPLE PLAN

Interaction with Health Care Professionals

A written opinion shall be obtained from the health care professional who evaluates employees of this facility. Written opinions will be obtained in the following instances:

- 1) When the employee is sent to obtain the Hepatitis B vaccine.
- 2) Whenever the employee is sent to a health care professional following an exposure incident.

Health care professionals shall be instructed to limit their opinions to:

- 1) Whether the Hepatitis B vaccine is indicated and if the employee has received the vaccine, or for evaluation following an incident,
- 2) That the employee has been informed of the results of the evaluation, and
- 3) That the employee has been told about any medical conditions resulting from exposure to blood or other potentially infectious materials. (*Note that the written opinion to the employer is not to reference any personal medical information*)

Training

Training for all employees will be conducted prior to initial assignment to tasks where occupational exposure may occur. Training will be conducted in the following manner;

Training for employees will include the following as explanation of:

- 1) the OSHA standard for Bloodborne Pathogens
- 2) Epidemiology and symptomatology of bloodborne diseases
- 3) Modes of transmission of bloodborne pathogens
- 4) this Exposure Control Plan (i.e. points of the plan, lines of responsibility, how the plan will be implemented, etc.)
- 5) Procedures which might cause exposure to blood or other potentially infectious materials at this facility
- 6) Control methods which will be used at the facility to control exposure to blood and other potentially infectious materials
- 7) Personal protective equipment available at this facility and who should be contacted to obtain them
- 8) Post exposure evaluation and follow-up
- 9) Signs and labels used at the facility
- 10) Hepatitis B vaccine program at the facility

SAMPLE PLAN

Recordkeeping

All records required by the OSHA standard will be implemented by (*insert name or department responsible for maintaining records*): _____

Dates

All provisions required by the standard will be implemented by: (*insert date for implementation of the provisions of the standard*)

(*Employers should list here if training will be conducted using videotapes, written material, etc. Also the employer should indicate who is responsible for conducting the training.*)

All employees will receive annual refresher training. (*Note that this training is to be conducted within one year of the employee's previous training.*)

The outline for the training material is located: (*list where the training materials are located.*)



STREET ADDRESS:

1800 WaterMark Drive
Columbus, OH 43215-1099

TELE: (614) 644-3020 FAX: (614) 644-2329

MAILING ADDRESS:

P.O. Box 1049
Columbus, OH 43216-1049

GUIDANCE DOCUMENT FOR SMALL GENERATORS OF INFECTIOUS WASTE

The State of Ohio has specific regulations regarding the disposal of infectious waste. The detailed requirements can be found in Chapter 3734 of the Ohio Revised Code and Chapters 3745-27 and 3745-37 of the Ohio Administrative Code. This guidance document is a summary of responsibilities for generators of infectious waste who produce less than 50 pounds of infectious waste each calendar month (small generators). These statements reflect current effective language as appears in both the Revised Code and the Administrative Code. Please take note of the date of the guidance document at the end of the text. Each generator is ultimately responsible for keeping up to date with changes in Ohio statute and Administrative Code regulations. Also included are the specific categories of infectious waste and the definition of an infectious agent.

Categories of Infectious Wastes

1. Cultures and stocks of infectious agents and associated biologicals. This includes specimen cultures, cultures and stocks of infectious agents, wastes from the production of biologicals, and discarded live and attenuated vaccines.
2. Laboratory wastes that were, or were likely to have been, in contact with infectious agents that may present a substantial threat to public health if improperly managed.
3. Pathological wastes, including human and animal tissues, organs, body parts, body fluids and excreta that are contaminated with or are likely to be contaminated with infectious agents, removed or obtained during surgery, autopsy, or for diagnostic evaluation.

Waste materials, from the rooms of humans or the enclosures of animals that have been isolated because of diagnosed communicable disease, that are likely to transmit infectious agents. Such waste materials from the rooms of humans do not include any wastes from patients on blood and body fluid precautions (universal precaution system established by the Centers for Disease Control), unless specific wastes generated under the universal precautions system have been identified as infectious wastes by the Public Health Council in rules adopted in accordance with Chapter 119 of the Ohio Revised Code.
5. Human and animal blood specimens and blood products that are being disposed. "Blood products" does not include patient care waste such as bandages or disposable gowns that are lightly soiled with blood or other body fluids unless the generator determines that they are soiled to the extent that they should be managed as infectious wastes.
6. Contaminated carcasses, body parts, and bedding of animals that were intentionally exposed to infectious agents during research, production of biologicals, or testing of pharmaceuticals; and carcasses and bedding of animals otherwise infected that may present a substantial threat to public health if improperly managed.
7. Sharp wastes used in the treatment, diagnosis, or inoculation of human beings or animals. Sharp wastes that have or are likely to have come into contact with infectious agents in medical, research, or industrial laboratories. Sharp wastes include, but are not limited to, hypodermic needles, syringes, scalpel blades, and glass articles that have been broken. Such waste items are referred to as "sharps" or "infectious sharps".
8. Any other waste materials generated, in the diagnosis, treatment, or immunization of human beings or animals; in research pertaining to the immunization of human beings or animals; or in the production or testing of biologicals, which the public health council identifies as infectious wastes after determining that the wastes present a substantial threat to human health when improperly managed because they are or may be, contaminated with infectious agents.
9. Any other waste materials the generator designates as infectious wastes.

George V. Voinovich, Governor
Nancy P. Hollister, Lt. Governor
Donald R. Schregardus, Director

Definition of an Infectious Agent

"Infectious agent" means a type of microorganism, helminth, or virus that causes, or significantly contributes to the cause of increased morbidity or mortality of human beings.

Small Generators of Infectious Waste Must Follow These Regulatory Requirements:

Segregation and Quantification of Infectious Wastes

SHARPS: All used sharps (category # 7) must be placed in rigid, puncture resistant containers that have a "sharps" label on them. The weight of all used sharps must be obtained and recorded for each month. This may be most easily done by recording the initial weight of a sharps container (as described below) at the beginning of the month and then subtracting this value from the final weight at the end of the month.

OTHER INFECTIOUS WASTE: All other categories of infectious waste must be segregated from the rest of the waste stream for quantification. Each small generator must weigh all other categories of infectious wastes that he produces and record a total for each calendar month. This monthly total is the summation of infectious sharps, blood, and all other infectious wastes.

EXEMPTIONS FOR QUANTIFICATION: No wastes consisting of dead animals or their parts need to be considered when determining the quantity of infectious wastes generated if the dead animals or parts meet either of the following:

- (i) Were not intentionally exposed to infectious agents during research, production of biologicals, or testing of pharmaceuticals;
- (ii) Either were produced by a veterinarian holding a license issued under Chapter 4741. of the Revised Code;

Or were treated or disposed of by a person holding a license issued under Chapter 953. of the Revised Code (Rendering Plants)

Furthermore, a facility that holds a license issued under 4717.17 (Embalmers and Funeral Directors) of the Revised Code, by statute, does not have to quantify the amount of blood, blood products, other body fluids, or embalming fluids that are discharged, on the site where they were generated, into a wastewater disposal system.

Disposal of Infectious Wastes

USED SHARPS - Place in rigid, tightly closed, puncture resistant, and leak resistant container labelled with the warning "sharps". If not treated to render them noninfectious, they must also be labelled with the international biohazard symbol. Once contained this way, they can be transported and disposed of like solid waste (placed in dumpster, picked-up by solid waste haulers, taken to landfill). Please note that even though state regulations allow the disposal of untreated sharps into the solid waste stream, many solid waste haulers and landfill operators exclude this type of waste as a business decision.

Many small generators may elect to treat their sharps themselves or have them treated by someone else. By statute, a small generator may take sharps to a hospital for treatment provided the small generator has staff privileges at the hospital. It should be noted that the hospital has the right to determine whether or not it wishes to accept such waste. Of course a small generator may also elect to have his waste treated at a commercial (licensed) infectious waste treatment facility.

Newly effective (5/1/95) Ohio EPA regulations contain provisions for the treatment and disposal of sharps by a process called applied heat sharps encapsulation. Through the application of thermal heat, this process results in the needles and syringes being encased in a solid plastic mass. The approved method, operational requirements, and quality assurance requirements are as follows:

- 1) Each load of sharps processed must contain at least 70% plastic.
- 2) The load must be processed at a minimum temperature of 330°F for 30 minutes.
- 3) If the resulting mass has any sharps protruding from it, then it must still go in a sharps container.
- 4) The load must consist of nothing but sharps*.
- 5) The sharps in the load must be free of liquids, except for residual amounts.

- i) The following records must be maintained for three years:
 - a) a quality assurance log (contents explained in #9 below).
 - b) a daily operating log which documents the date, time of day, and name of person operating the unit for each cycle.
- 7) Posted operating procedures for the unit.
- 8) No radioactive, hazardous, or cytotoxic materials can go into the unit. Additionally, no sharps containing volatile chemicals may be treated in the unit.
- 9) After every 50 treatment cycles, or semi-annually, whichever comes first, the operator must perform quality assurance testing as follows:
 - a) By wrapping a spore strip containing at least 10^4 *Bacillus subtilis* spores in aluminum foil and then placing it at the bottom of the heating chamber so that the folded seams will be to the outside of the resulting solid mass. If the technology used would also encase the wrapped spore strip, then the spore strip may be run through a treatment cycle without the addition of waste.
 - b) Upon completion of the treatment cycle, the spore strip is to be removed from the foil wrapping and then aseptically removed from its envelope and incubated according to the manufacturer's instructions.
 - c) Record daily for seven days whether or not the organisms on the strip grew (turbidity of the culture medium).
 - d) If the spore strip is positive for growth during the seven day incubation period, make a note of this in the quality assurance log and discontinue use of the unit until the problem has been rectified and another successful validation test has been performed.
- 10) Once processed in this manner, the resulting solid mass may be placed into the solid waste stream without an international biohazard symbol or the "sharps" designation.

* Small Generators who wish to treat their own sharps on-site so that they do not have to use the international biohazard symbol on their waste must follow these requirements. Therefore, when encapsulating sharps the load must consist of nothing but sharps. Since small generators are not required to treat the rest of their infectious waste, except cultures, they may use the encapsulation unit on these other waste types. The applied heat encapsulation method cannot be used on cultures.

UNUSED SHARPS - Discarded unused hypodermic needles, syringes, and scalpel blades must also be placed in the same type of container as used sharps. If it contains **only** unused sharps it does not need to be labelled with the international biohazard symbol. Once contained this way, they can be transported and disposed of in the same manner as solid waste. By statute, a small generator may take unused sharps to a hospital with other used sharps provided the small generator has staff privileges at that hospital. Unused sharps are not required to be quantified and included in the monthly infectious waste generation log.

SPECIMEN CULTURES AND CULTURES OF VIABLE INFECTIOUS AGENTS - These items must be treated on the premises where they are generated or transported to a licensed infectious waste treatment facility by a registered transporter. This document contains the specific requirements that must be followed for either one of these two options available to small generators.

UNTREATED LIQUID INFECTIOUS WASTES - Untreated liquid or semi-liquid infectious wastes consisting of blood, blood products, body fluids, and excreta may be discharged into a sanitary sewer system if the discharge is consistent with the permit for the system. If you are connected to the sanitary sewer system, please contact the local sewer operator or the pretreatment unit of the Division of Water Pollution Control (DWPC) in the appropriate Ohio EPA District Office. If you are not connected to a sewer system, contact the permit unit of the DWPC in the appropriate Ohio EPA district office. A map of Ohio with Ohio EPA districts is attached to this document. It should be noted that even though these types of infectious wastes may be disposed of in this manner, one must still quantify these wastes if they meet the criteria of a category of infectious waste. However under Ohio statute, a facility that holds a license under section 4717.17 of the Revised Code does not have to quantify the amount of blood, blood products, other body fluids, or embalming fluids that are discharged on the site where they were generated into a disposal system, as defined in section 6111.01 of the Revised Code, as infectious waste. Liquids or semi-solids may be physically weighed or the following conversion may be used:

$$1 \text{ cc [or milliliter (ml)]} = 1 \text{ gram (g)}$$

$$454 \text{ g} = 1 \text{ pound (lbs.)}$$

Example: Disposing of 5cc's of blood.

$$5\text{cc's} = 5\text{g}$$

$$\frac{5\text{ g}}{454\text{ g/lbs}} = 5\text{ g} \times \frac{1\text{ lbs}}{454\text{ g}} = 0.011\text{ lbs.}$$

Hence, 5cc = 0.011 lbs.

ALL OTHER INFECTIOUS WASTES - All other infectious wastes can be transported and disposed of like solid waste after the amount of waste has been weighed and recorded in the monthly infectious waste generation log.

Treatment of Specimen Cultures and Cultures of Viable Infectious Agents on the Site Where They Were Generated

Three different methods may be used to render cultures noninfectious on the site where they were generated. Once treated by any one of the three methods, the cultures may be disposed of, without a shipping paper, like solid waste.

CHEMICAL TREATMENT - Only cultures may be rendered noninfectious by chemical treatment. The approved chemical solution is a 15 % vol/vol hypochlorite (household bleach). Stronger solutions (for example, 25%) of household bleach may also be used. All cultures must be submerged for a minimum of 20 minutes. The treatment solution must be mixed immediately before use and discarded after use, and excess treatment solution must be decanted from the cultures before disposal. The treatment area must have the procedure for mixing the appropriate strength bleach solution posted.

AUTOCLAVING - Autoclaves must operate at a minimum temperature of 121 degrees centigrade (15 psi) for at least 60 minutes.

INCINERATION - All incineration must occur in a controlled air multichamber incinerator which gives complete combustion of the waste to carbonized or mineralized ash (excluding glass, ceramic, and metallic items). Any ash that is not completely combusted must be re-incinerated. The primary chamber temperature must be at least 1200 degrees Fahrenheit and the secondary chamber must operate at a minimum temperature of 1600 degrees Fahrenheit with a one second retention time (Please be aware that the Division of Air Pollution Control, Ohio PEA, also regulates incinerators and that their rules may differ from infectious waste regulations). The charging system must have a mechanical process to prevent infectious wastes from being charged until these minimal conditions are achieved. The secondary chamber must have automatic auxiliary burners that can independently maintain the temperature at 1600 degrees.

TIME AND WEIGHT RESTRICTIONS-

- No infectious waste stored for more than 35 days.
- Generators who also store infectious wastes that were not generated on their premises may not store more than 75 pounds of infectious waste at any one time.
- Sharps containers that are "in use" are exempt from the 35 day time limit.

Handling Requirements for Specimen Cultures and Cultures of Viable Infectious Agents Shipped Off-Site to a Licensed Infectious Waste Treatment Facility for Treatment

PROPER PACKAGING -

Placed in plastic bags that are:

- Impervious to moisture.
- Red in color, or another color that is clearly labelled with an international biohazard symbol that is at least 5 inches in diameter.
- Thick enough to prevent bursting as determined by the 165 gram dropped dart impact resistance test.
- Able to hold 25 pounds of water while being carried suspended from their tops for 60 seconds without leakage.

Before leaving the generator's premises:

- Placed inside of a second sealed plastic bag like the first one; or
- Placed inside of a fully enclosed, rigid, sturdy container. If containers are used they must have the international biohazard symbol on two opposite sides, be leak resistant, have tight fitting covers, and be strong enough to withstand handling. Containers may be either disposable (cardboard) or reusable. Reusable containers must be fully disinfected after use by using a disinfectant that is registered with the US EPA as a hospital disinfectant that is also tuberculocidal, or with a 10% volume/volume solution of hypochlorite (household bleach).

USE OF A REGISTERED TRANSPORTER - Untreated cultures that are being transported off the site where they were generated must be transported by an infectious waste transporter registered with the Ohio EPA.

SHIPPING PAPERS - Untreated cultures that are shipped off-site must be accompanied by a completed treatment shipping paper, unless they are being transported to another facility for treatment that is also owned or operated by the same generator who produced the infectious waste. The shipping paper can be prepared by either the generator, the transporter, or the infectious waste treatment facility treating the cultures. A master copy of such a form can be obtained by contacting the Ohio EPA's Infectious Waste Unit at (614) 644-2621.

Storage Requirements for Specimen Cultures and Cultures of Viable Infectious Agents and Generators Who Opt* to Have Their Infectious Waste Treated at a Licensed Infectious Waste Treatment Facility

- Infectious wastes may not be stored for more than 35 days. Storage time begins when any amount of infectious waste enters a container or a biohazard bag. However, sharps containers that are "in use" are exempt from the 35 day storage limit. Please note, sharps containers and other infectious waste containers are to be of an appropriate size for the amount of wastes produced.
- Small generators who store infectious wastes produced by other generators may not store more than 75 pounds at any one time.
- Maintain the integrity of the packaging.
- Kept in a nonputrescent state. Nonputrescent means that the infectious waste is not allowed to undergo biological degradation which is commonly characterized by the formation of malodorous products.
- Outside storage areas are locked.
- Storage access points marked with either an "authorized personnel only" sign, or one that states "warning: infectious waste" and/or displays the international biohazard symbol.
- Wastes protected from animals and are not a food source or breeding place for insects or rodents.

* It should be noted that in accordance with Ohio statute small generators of infectious wastes may transport and dispose of their untreated infectious wastes (except for specimen cultures and cultures of viable infectious agents) in the same manner as solid waste. Furthermore, by statute, all infectious waste, except for specimen cultures and cultures of viable infectious agents, may be transported by a small generator to a hospital for proper treatment, provided the small generator has staff privileges at that hospital.

Handling Requirements for Mixed Waste Types

HAZARDOUS WASTE AND INFECTIOUS WASTE - Any infectious waste or infectious waste mixture that meets the definition of a hazardous waste as specified in rule 3745-51-03 of the Ohio Administrative Code shall be managed as a hazardous waste in accordance with Chapters 3745-50 to 3745-69 of the Administrative Code.

RADIOACTIVE WASTE AND INFECTIOUS WASTE - Any infectious waste that is also radioactive shall be managed in accordance with applicable Ohio Department of Health and US Nuclear Regulatory Commission regulations.

Requirements for Small Generators of Infectious Waste Who Produce More than Fifty Pounds of Infectious Waste in Any One Month

Should a small generator produce 50 pounds or more infectious waste in any one month they must then submit an application for registration as a generator of infectious waste to the Director of the Ohio EPA within 30 days after the last day of the month in which 50 pounds or more of infectious waste was produced. Small generators who generate infectious wastes at more than one location must maintain monthly totals of infectious waste generated for each premises. Should one of the premises generate 50 pounds or more infectious waste in any one month then the generator is obligated to register all the premises that generate infectious waste with the Ohio EPA and follow all the guidelines applicable to large generators of infectious wastes at each premises. Application forms may be obtained by contacting the Ohio EPA's Infectious Waste Unit at (614) 644-2621. Along with a registration certificate, the registered generator will also receive a guidance document for generators of 50 or more of infectious waste in any one month (large generators). The registration certificate is valid for three years, during which time the registered generator must follow all the rules applicable to large generators of infectious waste.

For further information regarding the Ohio EPA Division of Solid and Infectious Waste Management's regulations on small generators, please contact any of the following:

- 1) A registered sanitarian in your local health department. Currently 95 of the 150 local health districts have an approved program with the Ohio EPA and perform compliance monitoring and enforcement of the Ohio EPA's regulations. The phone number for your local health department can be obtained from your local phone directory.
- 2) An inspector in the Ohio EPA District Office - Division of Solid and Infectious Waste Management. Phone numbers and addresses for the District Offices are listed on the attachment to this guidance document.
- 3) An infectious waste specialist in the Ohio EPA central office who can be reached by telephone at 614-644-2621 or write to: Ohio EPA - DSIWM; Infectious Waste Specialist; P.O. Box 1049; Columbus, OH 43216-1049.

To obtain a copy of the current infectious waste regulations, please send a check or money order in the amount of \$5.80 payable to "Treasurer - State of Ohio" and a short note indicating you are requesting the infectious waste regulations to:

OHIO EPA - FISCAL ADMIN
ATTN: VICKIE
P.O. BOX 1049
COLUMBUS, OH 43216-1049

Effective 05/95 - Replaces 02/01/94

OSHA BLOODBORNE PATHOGEN STANDARD (OSHA-BBP)
OHIO EPA DIVISION OF SOLID AND HAZARDOUS WASTE MANAGEMENT
OHIO EPA INFECTIOUS WASTE REGULATION (OEPA-IWR)

PRINCIPLE

OSHA-BBP

OEPA-IWR

Intent of Regulation.	Employee safety	Protection of waste workers, general public, and the environment.
Scope of Regulation	Any reasonably anticipated employee exposure to blood or other potentially infectious materials resulting from the performance of an employee's duties.	Includes all situations where infectious waste is produced, except waste produced by individuals for their own care.
Types of waste materials that are regulated.	Contaminated sharps; path & micro waste containing blood or other potentially infectious material (OPIM); contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed; items covered with dried blood or OPIM; HIV and HBV cultures; semen, vaginal secretions, pleural, pericardial, amniotic and peritoneal fluids; saliva in dental procedures, and any other body fluids which are visibly contaminated with blood.	<ul style="list-style-type: none"> - Sharps - Items contaminated with human or animal blood - Other body fluids if potential for an infectious agent to be present. - Cultures and stocks of infectious agents - Lab wastes (contaminated) - Pathological waste - Isolation wastes - Animal carcasses that were exposed to an infectious agent
Sharps container design	Closable, puncture resistant, labelled with biohazard symbol or red, leakproof on sides and bottom.	In addition to OSHA requirements, must also be labelled "sharps".
Container design for waste materials other than sharps	Closable; constructed to contain contents and prevent leakage; red in color, or if not red labelled with biohazard symbol. Biohazard label must be orange or orange/red, with lettering or biohazard symbol in contrasting color. Closed prior to handling or storage.	<p>LARGE GENERATORS- In addition to OSHA requirements, must pass the 165 Gram Dropped Dart Impact Resistance Test, if a large enough container must be able to hold 25 pounds of water while suspended from its top for 60 seconds. If not red in color the biohazard symbol must be 5" in diameter.</p> <p>SMALL GENERATORS- Only required to follow the OSHA standard for packaging nonsharps.</p>
Disposal of infectious waste	In accordance with state or local regulations. No specific jurisdiction in this area. However, OSHA wants all untreated biohazardous waste either placed in red bags/containers or marked with the biohazard symbol.	<p>LARGE GENERATORS- Must either treat waste on-site or ship via registered transporter to licensed treatment facility. SMALL GENERATORS- Discard untreated waste with rest of normal trash, treat waste on-site, or have waste transported to a treatment facility. Note that transporter does not have to be registered to collect infectious waste from small generators, except cultures.</p>

**OHIO EPA DIVISION OF SOLID AND INFECTIONOUS WASTE MANAGEMENT
 BLOODBOURNE PATHOGEN STANDARD vs. OHIO EPA INFECTIONOUS WASTE REGULATIONS
 (OSHA-BBP) (OEPA-IWR)**

PRINCIPLE

OSHA-BBP

OEPA-IWR

<p>Treatment of Infectious Waste</p>	<p>If waste is "decontaminated", it does not need to be labelled. In essence, this means treated by OEPA standards. This would also apply to small generators.</p>	<p>Small Generators: only need to treat cultures before disposal. Large Generators: treat all infectious waste by an approved method.</p>
<p>Important phone numbers</p>	<p align="center">FEDERAL OSHA Cleveland Area - 216-522-3818 Toledo Area- 419-259-7542 Columbus Area- 614-469-5582 Cincinnati Area- 513-841-4132 Statewide Number- 800-582-1708 PUBLIC EMPLOYEES OSHA Columbus Area - 644-2246 Statewide Number- 800-282-1425</p>	<p>Northeast District-800-686-6330 Northwest District-800-686-6930 Central District- 800-686-2330 Southwest District-800-686-8930 Southeast District-800-686-7330 Central Office - 614-644-2621</p>
<p>Program Implementation</p>	<p>Federal inspectors from the local area offices for federal and private employees. State inspectors from the Public Employees OSHA, part of the State of Ohio Dept. of Industrial Relations.</p>	<p>Ohio EPA program administered by local "approved" health departments. Currently 92 of the 150 health departments in Ohio are approved. If you are not located in an approved health district the program is administered by the Ohio EPA District Office.</p>



State of Ohio Environmental Protection Agency

P.O. Box 163669, 1800 WaterMark Dr.
Columbus, Ohio 43216-3669
614) 644-3020
FAX (614) 644-2329

George V. Voinovich
Governor

QUESTIONS AND ANSWERS FOR SMALL GENERATORS OF INFECTIOUS WASTE

QUESTION:

Who is a generator of infectious waste?

ANSWER:

A generator is any person who produces infectious waste. A "person" can be a business that is operated by a sole proprietor, a partnership, or a corporation. "Person" also includes governmental bodies.

QUESTION:

What is an infectious waste?

ANSWER:

As defined in Ohio law, the following nine categories are considered infectious wastes.

1. Cultures and stocks of infectious agents, wastes from the production of biologicals, and discarded live and attenuated vaccines.
2. Laboratory wastes that are, or likely to have been, in contact with infectious agents.
3. Pathological wastes, including body fluids, that are contaminated with infectious agents that were removed or obtained during surgery or autopsy or for diagnostic evaluation.
4. All waste materials from the rooms of humans, or the enclosures of animals, that have been isolated because of diagnosed communicable diseases that are contaminated with any body substance that may transmit infectious agents. Also included are waste materials from the rooms of patients who have been placed on blood and body fluid precautions that the public health council identifies as an infectious waste.
5. Human and animal blood specimens and blood products that are being disposed of. This does not include bandages or gowns that are lightly soiled with blood or body fluids, unless the generator determines that it should be handled as an infectious waste.
6. Contaminated carcasses, body parts, and bedding of animals intentionally exposed to infectious agents during research, production of biologicals, or testing of pharmaceuticals. Also included is the carcasses and bedding of animals otherwise infected with an infectious agent.
7. Sharps used in the treatment, diagnosis, or inoculation of human beings or animals, or sharps that have, or may have, come into contact with infectious agents in medical, research, or industrial labs. This would also include any broken glass articles that contained infectious agents.



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Any other waste materials the public health council identifies as infectious wastes. Currently no other waste items have been designated as an infectious waste by the public health council.

9. Any other waste materials the generator designates as infectious waste.

It should be noted that nearly all of the categories of infectious waste depend upon the presence of infectious agents or the possibility of the presence of infectious agents. The exceptions to this are **blood and blood products, cultures, and sharps**, which are independent of the presence of infectious agents.

QUESTION:

What is an infectious agent?

ANSWER:

An infectious agent is a type of microorganism, helminth, or virus that causes, or significantly contributes to the cause of, increased morbidity or mortality of humans beings. A statutory change has deleted the words "or animals" from the definition of an infectious agent.

QUESTION:

Do I have to quantify the amount of infectious waste that I produce?

ANSWER:

Yes. Small generators of infectious waste are required to maintain records which show the amount of infectious waste produced during each calendar month. All that is required is a monthly total which is the summation of all infectious waste produced during that particular month. Should a small generator have more than one office, or location, where infectious waste is generated, then she/he must keep a record of the amount of infectious waste produced at each location. A small generator is not required to register with the Ohio EPA until he/she produces 50 pounds of infectious waste at one location. However, once she/he produces this quantity of infectious waste at any one location, he/she would then be obligated to register all of the locations which generate infectious waste and to follow the regulations that pertain to large generators at each location.

QUESTION:

If I go over the 50 pound limit for just a few months and have to register, may I obtain a refund for the months that I was under the 50 pound limit?

ANSWER:

No refunds are given for months in which a generator may fall back under the 50 pound limit. Once registered as a generator of infectious waste one must dispose of his/her infectious waste as a large generator during the time for which the registration certificate is valid.

QUESTION:

Just "sharps" be placed into special containers?

ANSWER:

Yes. "Sharps" must be placed into containers that are rigid, puncture resistant, leak resistant, and tightly closed before disposal. Such containers must have the "sharps" designation on them. Also, if the sharps have not been autoclaved or chemically disinfected before they leave the generator's premise, the container must be labelled with the international biohazard symbol. Most "sharps" containers that are commercially available meet the criteria of an acceptable container and can be used for "sharps" disposal. Also, unused discarded hypodermic needles, syringes, and scalpel blades must be placed into a special "sharps" container before disposal.

QUESTION:

What should I do with the infectious waste that I produce?

ANSWER:

If you meet the criteria of a small generator, you can place the infectious waste that you produce (except for specimen cultures and cultures of viable infectious agents) in the solid waste stream (goes out with the other regular trash). The only infectious wastes that must be specially packaged are "sharps". It should be noted that under Ohio statute, small generators are permitted to take their infectious wastes, except for cultures, to a hospital for proper treatment, provided that they have staff privileges there and this arrangement is acceptable to the hospital. Small generators of infectious waste may opt to have their infectious waste taken to a licensed infectious waste treatment facility for treatment.

QUESTION:

Will my solid waste hauler pickup my solid waste if it contains some untreated infectious wastes?

ANSWER:

In accordance with Ohio law small generators of infectious waste may dispose of this waste (except for specimen cultures and cultures of viable infectious agents) with the rest of their solid waste. However, the solid waste hauler can make a business decision not to accept solid waste that also contains some untreated infectious waste.

QUESTION:

Can I take my sharps and other infectious waste to a hospital for treatment?

ANSWER:

Under Ohio statute, hospitals may treat the infectious wastes, except for cultures, generated by a small generator without being required to obtain an annual operating license from the local board of health, provided the small generator has staff privileges at the hospital. It is up to the hospital to decide whether or not it will accept infectious wastes from small generators.

QUESTION:

if I choose to have all of my infectious wastes taken to a licensed treatment facility what other regulations will I have to follow?

ANSWER:

Other than "sharps", there are no specified packaging requirements, however, most waste handling companies that will be picking-up the waste usually have specific packaging requirements for this type of waste. Likewise, no requirement exists for small generators of infectious waste to utilize shipping papers, but they are usually provided by most infectious waste transporters and licensed treatment facilities. Certain storage requirements do exist for infectious waste and must be followed by small generators who wish to have all of their waste taken to a licensed treatment facility. The general storage requirements are:

1. Infectious wastes are stored in a manner that maintains the integrity of the packaging.
2. Infectious wastes are kept in a nonputrescent state, using refrigeration or freezing when necessary.
3. Any outside storage areas are locked.
4. Label infectious waste storage areas with an "authorized personnel only" sign, or one Q&A for Small Generators of Infectious Waste stating, "warning: infectious waste" and/or displaying the international biohazard symbol.
5. Infectious wastes are protected from animals and does not become a food source or a breeding place for insects or rodents.
6. No infectious waste can be stored for more than 35 days.

QUESTION:

At what point do I consider my infectious waste as being "stored" and have to adhere to the 35 day maximum storage limit?

ANSWER:

Once waste has been placed into the container, then the generator would have 35 days before being required to remove the infectious wastes. Sharps containers do not have to adhere to the 35 day storage time limit until they are filled. During this time period the infectious waste must be maintained in accordance with the general storage requirements outlined in the previous answer. The container should be of an appropriate size for the generation rate. Rule of Thumb: If you can smell it or see evidence of its presence (bugs, rodents), the storage requirements have been violated.

QUESTION:

What are the requirements for specimen cultures and cultures of viable infectious agents?

ANSWER:

Cultures must either be treated at the location where they were generated by incineration, autoclaving, or chemical treatment or else taken to a licensed infectious waste treatment facility for proper treatment. If they are taken to a licensed infectious waste treatment facility, they must be transported by a registered transporter and be accompanied by shipping papers. Likewise, cultures must be contained in a plastic bag that is either red in color, or conspicuously labelled with the international biohazard symbol. Before leaving the premise for treatment the untreated cultures must either be placed into a second sealed or double bag like the first one, or else the initial bag must be placed into a rigid, sturdy, fully enclosed container. The disposable corrugated cardboard containers and the reusable containers used in the waste industry are acceptable.

QUESTION:

Do unused discarded "sharps" count towards my waste generation rate?

ANSWER:

No. Although they require special packaging before disposal into the solid waste stream, they are not categorized as an infectious waste and therefore do not count towards the waste generation rate.

QUESTION:

Can liquid infectious wastes go down the drain, and if so must this waste still be quantified?

ANSWER:

Liquid or semiliquid infectious wastes consisting of blood, blood products, body fluids, and excreta may be placed into a sanitary sewer system. Even though these types of infectious wastes may be disposed of in this manner, they still must be quantified by the generator. It should be noted that under Ohio statute a facility that holds a license under section 4717.17 of the Revised Code does not have to quantify any blood, blood products, other body fluids, or embalming fluids that are discharged on the site where generated into a disposal system, as defined in section 6111.01 of the Revised Code, as infectious waste.

QUESTION:

Must small generators of infectious waste use shipping papers for their untreated infectious waste?

ANSWER:

Small generators of infectious waste are not required to use shipping papers for their untreated infectious waste except when sending specimen cultures and cultures of viable infectious agents to a licensed infectious waste treatment facility. Small generators who opt to have all of their infectious waste taken to a licensed treatment facility may be asked to use shipping papers by their waste handling company.

QUESTION:

How must small generators treat the specimen cultures that they produce?

ANSWER:

They can treat specimen cultures and cultures of viable infectious agents either by incineration, chemical treatment, or autoclaving. If chemical treatment is used it must be done with hypochlorite, chlorinated isocyanurates, or chemicals registered with the US EPA as virucidal, bactericidal, fungicidal, parasiticidal, and sporicidal. The cultures must be completely submerged for a minimum of ten minutes. The treatment solutions must be mixed immediately before use and discarded after use, with any excess treatment solution being decanted before disposal. Autoclaving must be done at 121 degrees Centigrade at a minimum of 15 pounds per square inch for at least 30 minutes. The autoclaves must be operated with a maximum registering thermometer to ensure that the minimum temperature was obtained. This requirement is waived for fast exhaust loads, since the rapid change in pressure may result in damage to the thermometer.

QUESTION:

Once treated, do specimen cultures need a disposal shipping paper?

ANSWER:

No. Once treated by the small generator specimen cultures and cultures of viable infectious agents may be disposed of with the rest of the regular trash without a shipping paper.

QUESTION:

Are small generators who treat their own specimen cultures and cultures of viable infectious agents considered to be treatment facilities?

ANSWER:

No. Even though large generators of infectious waste who treat the infectious waste that they generate are considered to be treatment facilities, small generators who treat cultures are not considered to be infectious waste treatment facilities.

QUESTION:

What should I do with infectious waste that is also radioactive or has hazardous waste characteristics?

ANSWER:

Any infectious waste that is also radioactive or has a hazardous waste characteristic should not be managed as an infectious waste. Radioactive wastes must be managed in accordance with applicable Ohio Department of Health and U.S. Nuclear Regulatory Commission regulations. Any waste that meets the definition of a hazardous waste shall be managed as such in accordance with Chapters 3745-50 to 3745-69 of the Ohio Administrative Code.

QUESTION:

What should I do if I produce 50 pounds of infectious waste in one month?

ANSWER:

Submit an application for registration as a generator of infectious waste to the Ohio EPA within 30 days. Application forms can be obtained by contacting the Ohio EPA's Division of Solid and Infectious Waste Management at (614) 644-2621.

QUESTION:

Am I subject to inspection by the local Board of Health or by the Ohio EPA?

ANSWER:

Yes. The local Board of Health or the Ohio EPA is required to make inspections within 15 days after receiving a written request from any person. Additionally small generators can be inspected at other times when deemed appropriate by the local Board of Health or the Ohio EPA.

04/94



Personal Protective Equipment Cuts Risk

U.S. Department of Labor
Occupational Safety and Health Administration



Wearing gloves, gowns, masks, and eye protection can significantly reduce health risks for workers exposed to blood and other potentially infectious materials. The new OSHA standard covering bloodborne disease requires employers to provide appropriate personal protective equipment (PPE) and clothing free of charge to employees.

Workers who have direct exposure to blood and other potentially infectious materials on their jobs run the risk of contracting bloodborne infections from hepatitis B virus (HBV), human immunodeficiency virus (HIV) which causes AIDS, and other pathogens. About 8,700 health care workers each year are infected with HBV, and 200 die from the infection. Although the risk of contracting AIDS through occupational exposure is much lower, wearing proper personal protective equipment can greatly reduce potential exposure to all bloodborne infections.

SELECTING PPE

Personal protective clothing and equipment must be suitable. This means the level of protection must fit the expected exposure. For example, gloves would be sufficient for a laboratory technician who is drawing blood, whereas a pathologist conducting an autopsy would need considerably more protective clothing.

PPE may include gloves, gowns, laboratory coats, face shields or masks, eye protection, pocket masks, and other protective gear. The gear must be readily accessible to employees and available in appropriate sizes.

If an employee is expected to have hand contact with blood or other potentially infectious materials or contaminated surfaces, he or she must wear gloves. Single use gloves cannot be washed or decontaminated for reuse. Utility gloves may be decontaminated if they are not compromised. They should be replaced when they show signs of cracking, peeling, tearing, puncturing, or deteriorating. If employees are allergic to standard gloves, the employer must provide hypoallergenic gloves or similar alternatives.

Routine gloving is not required for phlebotomy in voluntary blood donation centers, though it is necessary for all other phlebotomies. In any case, gloves must be available in voluntary blood donation centers for employees who want to use them. Workers in voluntary blood donation centers must use gloves (1) when they have cuts, scratches or other breaks in their skin, (2) while they are in training; and (3) when they believe contamination might occur.

Employees should wear eye and mouth protection such as goggles and masks, glasses with solid side shields, and masks or chin-length face shields when splashes, sprays, splatters, or droplets of potentially infectious materials pose a hazard through the eyes, nose or mouth. More extensive coverings such as gowns, aprons, surgical caps and hoods, and shoe covers or boots are needed when gross contamination is expected. This often occurs, for example, during orthopedic surgery or autopsies.

Employers must provide the PPE and ensure that their workers wear it. This means that if a lab coat is considered PPE, it must be supplied by the employer rather than the employee. The employer also must clean or launder clothing and equipment and repair or replace it as necessary.

Additional protective measures such as using PPE in animal rooms and decontaminating PPE before laundering are essential in facilities that conduct research on HIV or HBV.

EXCEPTION

There is one exception to the requirement for **protective gear**. An employee may choose, temporarily and briefly **under rare and extraordinary circumstances**, to forego the equipment. It must be the employee's professional judgment that using the protective equipment would prevent the delivery of health care or public safety services or would pose an increased hazard to the safety of the worker or co-worker. When one of these excepted situations occurs, employers are to investigate and document the circumstances to determine if there are ways to avoid it in the future. For example, if a firefighter's resuscitation device is damaged, perhaps another type of device should be used or the device should be carried in a different manner. Exceptions must be limited--this is not a blanket exemption.

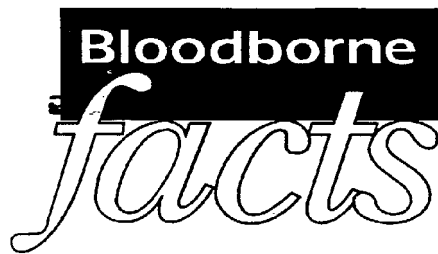
DECONTAMINATING AND DISPOSING OF PPE

Employees must remove personal protective clothing and equipment before leaving the work area or when the PPE becomes contaminated. If a garment is penetrated, workers must remove it immediately or as soon as feasible. Used protective clothing and equipment must be placed in designated containers for storage, decontamination, or disposal.

OTHER PROTECTIVE PRACTICES

If an employee's skin or mucous membranes come into contact with blood, he or she is to wash with soap and water and flush eyes with water as soon as feasible. In addition, workers must wash their hands immediately or as soon as feasible after removing protective equipment. If soap and water are not immediately available, employers may provide other handwashing measures such as moist **towelettes**. Employees still must wash with soap and water as soon as possible.

Employees must refrain from eating, drinking, smoking, applying cosmetics or lip balm, and handling contact lenses in areas where they may be exposed to blood or other potentially infectious materials.



Hepatitis B Vaccination-- Protection For You

U.S. Department of Labor
Occupational Safety and Health Administration



WHAT IS HBV?

Hepatitis B virus (HBV) is a potentially life-threatening bloodborne pathogen. Centers for Disease Control estimates there are approximately 280,000 HBV infections each year in the U.S.

Approximately 8,700 health care workers each year contract hepatitis B, and about 200 will die as a result. In addition, some who contract HBV will become carriers, passing the disease on to others. Carriers also face a significantly higher risk for other liver ailments which can be fatal, including cirrhosis of the liver and primary liver cancer.

HBV infection is transmitted through exposure to blood and other infectious body fluids and tissues. Anyone with occupational exposure to blood is at risk of contracting the infection.

Employers must provide engineering controls; workers must use work practices and protective clothing and equipment to prevent exposure to potentially infectious materials. However, the best defense against hepatitis B is vaccination.

WHO NEEDS VACCINATION?

The new OSHA standard covering bloodborne pathogens requires employers to offer the three-injection vaccination series free to all employees who are exposed to blood or other potentially infectious materials as part of their job duties. This includes health care workers, emergency responders, morticians, first-aid personnel, law enforcement officers, correctional facilities staff, launderers, as well as others.

The vaccination must be offered within 10 days of initial assignment to a job where exposure to blood or other potentially infectious materials can be "reasonably anticipated." The requirements for vaccinations of those already on the job take effect July 6, 1992.

WHAT DOES VACCINATION INVOLVE?

The hepatitis B vaccination is a noninfectious, yeast-based vaccine given in three injections in the arm. It is prepared from recombinant yeast cultures, rather than human blood or plasma. Thus, there is no risk of contamination from other bloodborne pathogens nor is there any chance of developing HBV from the vaccine.

The second injection should be given one month after the first, and the third injection six months after the initial dose. More than 90 percent of those vaccinated will develop immunity to the hepatitis B virus. To ensure immunity, it is important for individuals to receive all three injections. At this point it is unclear how long the immunity lasts, so booster shots may be required at some point in the future.

The vaccine causes no harm to those who are already immune or to those who may be HBV carriers. Although employees may opt to have their blood tested for antibodies to determine need for the vaccine, employers may not make such screening a condition of receiving vaccination nor are employers required to provide prescreening.

Each employee should receive counseling from a health care professional when vaccination is offered. This discussion will help an employee determine whether inoculation is necessary.

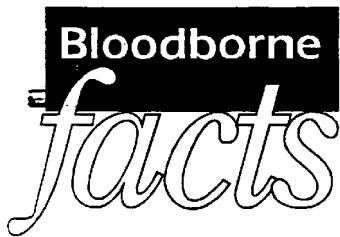
WHAT IF I DECLINE VACCINATION?

Workers who decide to decline vaccination must complete a declination form. Employers must keep these forms on file so that they know the vaccination status of everyone who is exposed to blood. At any time after a worker initially declines to receive the vaccine, he or she may opt to take it.

WHAT IF I AM EXPOSED BUT HAVE NOT YET BEEN VACCINATED?

If a worker experiences an exposure incident, such as a needlestick or a blood splash in the eye, he or she must receive confidential medical evaluation from a licensed health care professional with appropriate follow-up. To the extent possible by law, the employer is to determine the source individual for HBV as well as human immunodeficiency virus (HIV) infectivity. The worker's blood will also be screened if he or she agrees.

The health care professional is to follow the guidelines of the U.S. Public Health Service in providing treatment. This would include hepatitis B vaccination. The health care professional must give a written opinion on whether or not vaccination is recommended and whether the employee received it. Only this information is reported to the employer. Employee medical records must remain confidential. HIV or HBV status must NOT be reported to the employer.



Protect Yourself When Handling Sharps

U.S. Department of Labor
Occupational Safety and Health Administration



A needlestick or a cut from a contaminated scalpel can lead to infection from hepatitis B virus (HBV) or human immunodeficiency virus (HIV) which causes AIDS. Although few cases of AIDS have been documented from occupational exposure, approximately 8,700 health care workers each year contract hepatitis B. About 200 will die as a result. The new OSHA standard covering bloodborne pathogens specifies measures to reduce these risks of infection.

PROMPT DISPOSAL

The best way to prevent cuts and sticks is to minimize contact with sharps. That means disposing of them immediately after use. Puncture-resistant containers must be available nearby to hold contaminated sharps-- either for disposal or, for reusable sharps, later decontamination for re-use. When reprocessing contaminated reusable sharps, employees must not reach by hand into the holding container. Contaminated sharps must never be sheared or broken.

Recapping, bending, or removing needles is permissible only if there is no feasible alternative or if required for a specific medical procedure such as blood gas analysis. If recapping, bending, or removal is necessary, workers must use either a mechanical device or a one-handed technique. If recapping is essential--for example, between multiple injections for the same patient--employees must avoid using both hands to recap. Employees might recap with a one-handed "scoop" technique, using the needle itself to pick up the cap, pushing cap and sharp together against a hard surface to ensure a tight fit. Or they might hold the cap with tongs or forceps to place it on the needle.

SHARPS CONTAINERS

Containers for used sharps must be puncture resistant. The sides and the bottom must be leakproof. They must be labeled or color coded red to ensure that everyone knows the contents are hazardous. Containers for disposable sharps must have a lid, and they must be maintained upright to keep liquids and the sharps inside.

Employees must never reach by hand into containers of contaminated sharps. Containers for reusable sharps could be equipped with wire basket liners for easy removal during reprocessing, or employees could use tongs or forceps to withdraw the contents. Reusable sharps disposal containers may not be opened, emptied, or cleaned manually.

Containers need to be located as near to as feasible the area of use. In some cases, they may be placed on carts to prevent access to mentally disturbed pediatric patients. Containers also should be available wherever sharps may be found, such as in laundries. These containers must be replaced routinely and not be overfilled, which can increase the risk of needlesticks or cuts.

HANDLING CONTAINERS

When employees are ready to discard contents, they should first close the lids. If there is a chance of leakage from the primary container, the employees should use a secondary container that is closable, labeled, or color coded and leak resistant.

Careful handling of sharps can prevent injury and reduce the risk of infection. By following these work practices, employees can decrease their chances of contracting bloodborne illness.



Reporting Exposure Incidents

U.S. Department of Labor
Occupational Safety and Health Administration



OSHA's new bloodborne pathogens standard includes provisions for medical follow-up for workers who have an exposure incident. The most obvious exposure incident is a needlestick. But any specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials is considered an exposure incident and should be reported to the employer.

Exposure incidents can lead to infection from hepatitis B virus (HBV) or human immunodeficiency virus (HIV) which causes AIDS. Although few cases of AIDS are directly traceable to workplace exposure, every year about 8,700 health care workers contract hepatitis B from occupational exposures. Approximately 200 will die from this bloodborne infection. Some will become carriers, passing the infection on to others.

WHY REPORT?

Reporting an exposure incident right away permits immediate medical follow-up. Early action is crucial. Immediate intervention can forestall the development of hepatitis B or enable the affected worker to track potential HIV infection. Prompt reporting also can help the worker avoid spreading bloodborne infection to others. Further, it enables the employer to evaluate the circumstances surrounding the exposure incident to try to find ways to prevent such a situation from occurring again.

Reporting is also important because part of the follow-up includes testing the blood of the source individual to determine HBV and HIV infectivity if this is unknown and if permission for testing can be obtained. The exposed employee must be informed of the results of these tests.

Employers must tell the employee what to do if an exposure incident occurs.

MEDICAL EVALUATION AND FOLLOW-UP

Employers must provide free medical evaluation and treatment to employees who experience an exposure incident. They are to refer exposed employees to a licensed health care provider who will counsel the individual about what happened and how to prevent further spread of any potential infection. He or she will prescribe appropriate treatment in line with current U.S. Public Health Service recommendations. The licensed health care provider also will evaluate any reported illness to determine if the symptoms may be related to HIV or HBV development.

The first step is to test the blood of the exposed employee. Any employee who wants to participate in the medical evaluation program must agree to have blood drawn. However, the employee has the option to give the blood sample but refuse permission for HIV testing at that time. The employer must maintain the employee's blood sample for 90 days in case the employee changes his or her mind about testing--should symptoms develop that might relate to HIV or HBV infection.

The health care provider will counsel the employee based on the test results. If the source individual was HBV positive or in a high risk category, the exposed employee may be given hepatitis B immune globulin and vaccination, as necessary. If there is no information on the source individual or the test is negative, and the employee has not been vaccinated or does not have immunity based on his or her test, he or she may receive the vaccine. Further, the health care provider will discuss any other findings from the tests.

The standard requires that the employer make the hepatitis B vaccine available, at no cost to the employee, to all employees who have occupational exposure to blood and other potentially infectious materials. This requirement is in addition to post exposure testing and treatment responsibilities.

WRITTEN OPINION

In addition to counseling the employee, the health care provider will provide a written report to the employer. This report simply identifies whether hepatitis B vaccination was recommended for the exposed employee and whether or not the employee received vaccination. The health care provider also must note that the employee has been informed of the results of the evaluation and told of any medical conditions resulting from exposure to blood which require further evaluation or treatment. Any added findings must be kept confidential.

CONFIDENTIALITY

Medical records must remain confidential. They are not available to the employer. The employee must give specific written consent for anyone to see the records. Records must be maintained for the duration of employment plus 30 years in accordance with OSHA's standard on access to employee exposure and medical records.



Holding the Line on Contamination

U.S. Department of Labor
Occupational Safety and Health Administration



Keeping work areas in a clean and sanitary condition reduces employees' risk of exposure to bloodborne pathogens. Each year about 8,700 health care workers are infected with hepatitis B virus, and 200 die from contracting hepatitis B through their work. The chance of contracting human immunodeficiency virus (HIV), the bloodborne pathogen which causes AIDS, from occupational exposure is small, yet a good housekeeping program can minimize this risk as well.

DECONTAMINATION

Every employer whose employees are exposed to blood or other potentially infectious materials must develop a written schedule for cleaning each area where exposures occur. The methods of decontaminating different surfaces must be specified, determined by the type of surface to be cleaned, the soil present and the tasks or procedures that occur in that area.

For example, different cleaning and decontamination measures would be used for a surgical operatory and a patient room. Similarly, hard surfaced flooring and carpeting require separate cleaning methods. More extensive efforts will be necessary for gross contamination than for minor spattering. Likewise, such varied tasks as laboratory analyses and normal patient care would require different techniques for clean-up.

Employees must decontaminate working surfaces and equipment with an appropriate disinfectant after completing procedures involving exposure to blood. Many laboratory procedures are performed on a continual basis throughout a shift. Except as discussed below, it is not necessary to clean and decontaminate between procedures. However, if the employee leaves the area for a period of time, for a break or lunch, then contaminated work surfaces must be cleaned.

Employees also must clean (1) when surfaces become obviously contaminated; (2) after any spill of blood or other potentially infectious materials; and (3) at the end of the work shift if contamination might have occurred. Thus, employees need not decontaminate the work area after each patient care procedure, but only after those that actually result in contamination.

If surfaces or equipment are draped with protective coverings such as plastic wrap or aluminum foil, these coverings should be removed or replaced if they become obviously contaminated. Reusable receptacles such as bins, pails and cans that are likely to become contaminated must be inspected and decontaminated on a regular basis. If contamination is visible, workers must clean and decontaminate the item immediately, or as soon as feasible.

Should glassware that may be potentially contaminated break, workers need to use mechanical means such as a brush and dustpan or tongs or forceps to pick up the broken glass--never by hand, even when wearing gloves.

Before any equipment is serviced or shipped for repairing or cleaning, it must be decontaminated to the extent possible. The equipment must be labeled, indicating which portions are still contaminated. This enables employees and those who service the equipment to take appropriate precautions to prevent exposure.

REGULATED WASTE

In addition to effective decontamination of work areas, proper handling of regulated waste is essential to prevent unnecessary exposure to blood and other potentially infectious materials. Regulated waste must be handled with great care --i.e., liquid or semi liquid blood and other potentially infectious materials, items caked with these materials, items that would release blood or other potentially infected materials if compressed, pathological or microbiological wastes containing them and contaminated sharps.

Containers used to store regulated waste must be closable and suitable to contain the contents and prevent leakage of fluids. Containers designed for sharps also must be puncture resistant. They must be labeled or color coded to ensure that employees are aware of the potential hazards. Such containers must be closed before removal to prevent the contents from spilling. If the outside of a container becomes contaminated, it must be placed within a second suitable container.

Regulated waste must be disposed of in accordance with applicable state and local laws.

LAUNDRY

Laundry workers must wear gloves and handle contaminated laundry as little as possible, with a minimum of agitation. Contaminated laundry should be bagged or placed in containers at the location where it is used, but not sorted or rinsed there.

Laundry must be transported within the establishment or to outside laundries in labeled or red color-coded bags. If the facility uses Universal Precautions for handling all soiled laundry, then alternate labeling or color coding that can be recognized by the employees may be used. If laundry is wet and it might soak through laundry bags, then workers must use bags that prevent leakage to transport it.

RESEARCH FACILITIES

More stringent decontamination requirements apply to research laboratories and production facilities that work with concentrated strains of HIV and HBV.

SIGNIFICANT PHONE NUMBERS

Manufacturers of Hepatitis B Vaccine

Merck Sharp	1-800-672-6372
Smith Kline Beecham	1-800-366-8900 , ext.5231
Ohio Department of Health, Occupational Health Section	614-466-4183
Public Employment Risk Reduction Program (PERRP)	800-671-6858
OSHA district offices	See page 6-6 of this manual
Ohio EPA	
General Number	614-644-3020
Infectious Waste	614-728-5335
District Offices	See page 5-7
Division of Safety & Hygiene	800-644-6292, option 22
BWC Resource Center	614-466-7388
BWC Film Library	614-728-6465
S&H district offices	See pages 7-2 & 7-3

**FILMS AND VIDEOCASSETTES AVAILABLE FROM
OHIO DEPARTMENT OF HEALTH
BUREAU OF HEALTH PROMOTION
614-644-7852**

- 1) Why Take the Risk ? Sanitary management of blood and bodily fluids (7.5 min.)
- 2) Hepatitis B-What is Your Risk ? (6 min.)

Assorted booklets on AIDS, Hepatitis B and Hepatitis C.

VIDEOS AVAILABLE FROM THE DIVISION OF SAFETY & HYGIENE LIBRARY 614-728-6465

AIDS IN THE WORKPLACE

Show how AIDS can and cannot be transmitted and how to deal with AIDS victims in the workplace. (1991)

13 minutes, No. 630033

BLOODBORNE--PROTECT YOURSELF

Designed for industrial employees in housekeeping and decontamination procedures. (1992)

15 minutes, No. 630031

BLOODBORNE DISEASES

Shows EMT and medical personnel the correct procedures to avoid exposure to HIV and Hepatitis B.

15 minutes, No. 630030

BLOODBORNE PATHOGENS

Explains how contamination can occur in general industry by being exposed to body fluids of an infected employee. (1992)

12 minutes, No. 630028

BLOODBORNE PATHOGENS

Shows first-responder personnel how to deal with accidents and protect themselves from exposure. (1992)

21 minutes, No. 630027

BLOODBORNE PATHOGENS WORKER AWARENESS

Covers awareness and what bloodborne pathogens are. Also discusses how to recognize exposure situations. (1992)

12 minutes, No. 630032

BLOODBORNE PATHOGENS AT WORK

Defines bloodborne diseases and how they can be transmitted. (1992)

6 minutes, No. 630038

BLOODBORNE PATHOGENS FOR COMMERCIAL AND LIGHT INDUSTRY

Explains how easily exposure to Hepatitis B and HIV virus can happen if a good, safe control plan is not used. (1992)

26 minutes, No. 630029

BLOODBORNE PATHOGENS IN THE WORKPLACE--HEAVY INDUSTRY

Shows many different kinds of personal protection and biohazard containers used to avoid exposure.
(1992)

23 minutes, No. 630026

PREVENTING BLOODBORNE DISEASE

Explains the precautions that need to be taken when working around contaminated blood or when giving first aid. (1992)

18 minutes, No. 630025

One Hour Safety Presentation

One Hour Safety Presentation

The main goal of the Division of Safety & Hygiene is the reduction of accidents and illnesses in the workplace. Toward this goal, the *One Hour Safety Presentation* is designed to support the delivery of a presentation to co-workers in your workplace to help them understand and promote safer and healthier work environments. It is recommended that you take the DSH Training Center course as a background for using *One Hour Safety Presentation* to train others at your workplace. Call 1-800-OHI OBWC, option 2, 2, 3, for class dates and locations.

The *One Hour Safety Presentation* contains:

- **Transparency Masters** from which films can be made to use on an overhead projector,
- **Instructor Notes** which gives the instructor suggestions and script notations to use during the presentation, and
- **Student Handouts** which can be copied for those attending the presentation.

Materials are included for a one-hour presentation on each of these topics:

- ✓ Accident Analysis
- ✓ Bloodborne Pathogens
- ✓ Developing an Ergonomics Process
- ✓ Hazard Communication
- ✓ Lockout/Tagout
- ✓ Respiratory Protection
- ✓ Violence in the Workplace

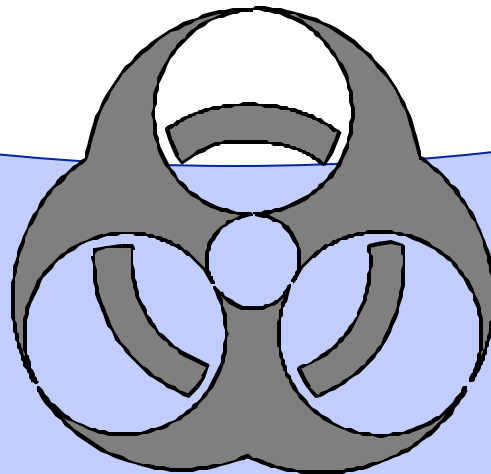
Applications used:

- 1) Text documents (ending in **.txt**) can be opened with any word processing program.
- 2) Microsoft PowerPoint slides (ending in **.ppt**) can be opened with the Microsoft PowerPoint program. If you do not have PowerPoint and you do have Windows 95, 98, 2000 or Windows NT operating system, you can view the PowerPoint slides by downloading a free PowerPoint Viewer from the following website:
<http://office.microsoft.com/downloads/default.aspx?Product=PowerPoint&Version=95|97|98|2000|2002&Type=Converter|Viewer>
- 3) Adobe Reader document (ending in **.pdf**) contains the *One Hour Safety Presentation* in read-only format. It can be opened when you download Adobe Reader, which is available free of charge at the following website:
<http://www.adobe.com/products/acrobat/readstep2.html>

If you have comments or questions about these materials for *One Hour Safety Presentation*, please e-mail us: OCOSHTrng@bwc.state.oh.us

Transparency Masters

BLOODBORNE PATHOGENS



Objectives



Upon completion of the course, students will be able to:

- **List bloodborne pathogens, their signs and symptoms, and how they are transmitted**
 - **Recognize methods of control and their application**
 - **Determine criteria for occupational exposure**
-
-

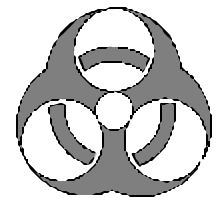
Bloodborne Pathogens

**Pathologic organisms present in human
blood that can cause disease in
humans**



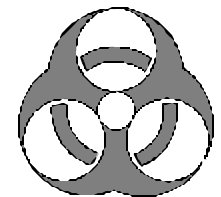
Means of Transmission

- Unsafe sexual practices
- Sharing of needles
- *Skin punctures or contact with non-intact skin*
- *Exposure to eyes, mouth or nose*
- Mother to infant
- Blood transfusion



Hepatitis A

- **Not bloodborne**
- **Severity of disease**
- **Poor sanitation**
- **Raw seafood**
- **Daycare centers**
- **Vaccine**



Hepatitis B

- **Most common occupationally-acquired infection**
- **Current number of cases**
- **Type of workers affected**
- **Vaccine available**
- **Outcomes**



Hepatitis B

Found in:

- **Blood**
- **Vaginal Secretions**
- **Semen**
- **Saliva**



Signs and Symptoms:

- Nausea
- Lack of appetite
- Fatigue
- Joint pain
- Dark urine
- Jaundice
- Fever



Hepatitis C



- **Previous name**
 - **Blood tests**
 - **Degree of risk**
 - **Current trends for workers**
 - **No vaccine available**
-
-

HIV



- **History**
- **Statistics**
- **Positive HIV**
- **No vaccine, no cure**
- **Degree of risk**
- **Health care workers**

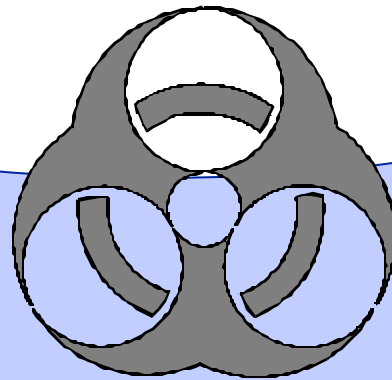
HIV Signs & Symptoms

(many have all, none, or some)

- Night sweats
- Swollen glands
- Fever, chills
- Flu-like
- Joint Pain
- Fatigue
- Rash



Exposure Control



Occupational Exposure

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



Semen

Vaginal Secretions

Sterile body fluids

“Visibly” soiled

DOES NOT INCLUDE:

- Sputum
 - Vomitus
 - Sweat, Tears, Urine/Feces
 - Nasal Secretions
-
-

Collateral Duties

First Aid Providers

- **Federal Coverage**

Exposure

- **State Coverage**

Exposure Incident



Methods of Control

(1) Engineering controls



Methods of Control (Cont.)

(2) Work Practice Controls

- **Hand-washing**
 - soap selection
 - alternatives
- **Universal Precautions**



Universal Precautions

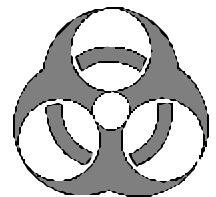
An approach to infection control. All human blood and certain body fluids are treated as if known to be infectious.



Methods of Control (cont.)

(3) Personal Protective Equipment

- Selection
- Adequate fit
- Maintenance
- Latex sensitivity



Gloves

- **Disposable - not reused**
- **Change if torn or punctured**
- **Awareness of latex allergic reactions**
- **Use of utility gloves**



Hepatitis B Vaccine

- **Background**
- **Series of shots**
- **Employees affected**
- **Refusal form**
- **Side effects**
- **Counterindications**
- **How to access medical services**



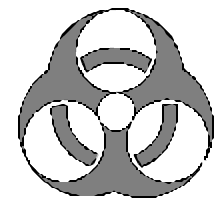
Exposure Incident



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

Post-exposure follow-up

- **Definition of “exposure”**
- **Selecting medical service**
- **Informing the employee**
- **Recordkeeping**
- **Confidentiality of results**



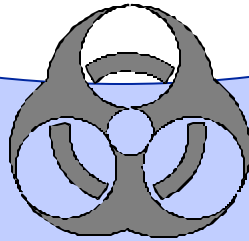
Blood spill clean-up



- **Equipment used**
 - **Analyzing your needs**
 - **Purchasing appropriately**
 - **Approved disinfectants**
-
-

Instructor Notes

BLOODBORNE PATHOGENS



Objectives



Upon completion of the course, students will be able to:

- List bloodborne pathogens, their signs and symptoms, and how they are transmitted
- Recognize methods of control and their application
- Determine criteria for occupational exposure

Bloodborne Pathogens

**Pathologic organisms present in human
blood that can cause disease in
humans**



Emphasize that we are talking about Human blood that can transmit these diseases, not animal blood.

Means of Transmission

- Unsafe sexual practices
- Sharing of needles
- *Skin punctures or contact with non-intact skin*
- *Exposure to eyes, mouth or nose*
- Mother to infant
- Blood transfusion



Are main concern is the occupational work setting.

- ***Skin punctures or contact with non-intact skin***
- ***Exposure to eyes, mouth or nose***

So in manufacturing or construction the blood component is the key.

Hepatitis A

- **Not bloodborne**
- **Severity of disease**
- **Poor sanitation**
- **Raw seafood**
- **Daycare centers**
- **Vaccine**



We talk about Hepatitis A because people associate it with a bloodborne pathogen. It is not.

Good hand washing of course is the key to this one.

The vaccine for this hepatitis is NOT required by OSHA !

Hepatitis B

- **Most common occupationally-acquired infection**
- **Current number of cases**
- **Type of workers affected**
- **Vaccine available**
- **Outcomes**



A few years ago 5,000 to 8,500 cases a year were reported (in Ohio).

That has dropped dramatically to about a 1,000 reported cases a year.

OUTCOMES

- 1) Get it ; Get Over it
- 2) Carrier
- 3) Chronic Liver Disease

Hepatitis B

Found in:

- **Blood**
- **Vaginal Secretions**
- **Semen**
- **Saliva**



Blood is the main emphasis here.

It takes so many parts per million of saliva to cause transmission it is not to be concerned about.

Signs and Symptoms:

- Nausea
- Lack of appetite
- Fatigue
- Joint pain
- Dark urine
- Jaundice
- Fever



These symptoms can be mistaken for flu like symptoms.

Hepatitis C



- Previous name
- Blood tests
- Degree of risk
- Current trends for workers
- No vaccine available

Previous name:

Before 1992 there was no test, diagnosis was by exclusion and was referred to as NON A/NON B.

The test:

- 1) Initial Exposure
- 2) 6 weeks Later
- 3) then follow up 2 months later

Degree of Risk (talk about a good rule of 3 here shortly)

85 % of Hepatitis C exposures are carriers for life.

IV Drug users

Prison Population

Social Economic Problem

Bad Liver (Cost to you)

Drug therapy-- \$1200 per month

HIV



- History
- Statistics
- Positive HIV
- No vaccine, no cure
- Degree of risk
- Health care workers

Early 80's really became noticeable.

Degree of Risk--- Rule of 3 is the best way to remember this.

Good Needle Stick

- 1) 30 % Chance Hep B
- 2) 3% Chance Hep C
- 3) .3% Chance Hiv

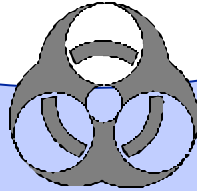
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(many have all, none, or some)

- Night sweats
- Swollen glands
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- Flu-like
- Joint Pain
- Fatigue
- Rash



Exposure Control



Occupational Exposure

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



Semen

Vaginal Secretions

Sterile body fluids

“Visibly” soiled

DOES NOT INCLUDE:

- Sputum

- Sweat, Tears, Urine/Feces

- Vomitus

- Nasal Secretions

Sterile Body Fluids:

Spinal Fluids

Plural Fluids

The “Does not Include” -- OSHA does not care about these

Collateral Duties

First Aid Providers

- **Federal Coverage**
Exposure

- **State Coverage**
Exposure Incident



In 1991 the Standard came out.

Maybe called on -not Primary Duty

- Training
- Do not have to offer vaccine

Federal Coverage

Exposure:

- Blood is present
- Report to Human Resources
- Than offer vaccine

State Coverage

Exposure Incident

ACTUAL EXPOSURE

Methods of Control

(1) Engineering controls



What do you think they are ?

Engineering Controls --- Manufacturing ?

Federal

State Level

Only Health Care

Nursing Home

Front Line Worker

Involve Record Keeping

Sharps Container

Needle Sticks --- Senate Bill 183 Legislation

Methods of Control (Cont.)

(2) Work Practice Controls

- **Hand-washing**
 - soap selection
 - alternatives
- **Universal Precautions**



Hand Washing

Not a Harsh Soap (Talk about How to and emphasize it is friction that helps to remove harmful bacteria and viruses)

Should be in your exposure control Plan

Eating

Drinking

Smoking

Soap Selection Alternatives

Squirt

Gels

Foams

Universal Precautions

Discrimination (Violation if not)

Universal Precautions

An approach to infection control. All human blood and certain body fluids are treated as if known to be infectious.



Methods of Control (cont.)

(3) Personal Protective Equipment

- Selection
- Adequate fit
- Maintenance
- Latex sensitivity



Methods of Control

Latex Sensitivity

Anaphylactic Shock

Neo Premium

Gloves

- **Disposable - not reused**
- **Change if torn or punctured**
- **Awareness of latex allergic reactions**
- **Use of utility gloves**



Clean -up Kits

Health Care -- Have to have two way breathing barrier.

Hepatitis B Vaccine

- **Background**
- **Series of shots**
- **Employees affected**
- **Refusal form**
- **Side effects**
- **Counterindications**
- **How to access medical services**



The hepatitis vaccine has been on the increase for the last 20 years.

Series of Shots: 0; 1 Month; 6 Months.

Employees Affected: Listed on the the exposure control plan or you can always provide as a benevolent act.

Cannot charge the employee.

With an authority form/consent form can not have release of liability.

Refusal form: Employee can say no then renege and you have to offer it to them.

Side Effects: Stiff Arm; Flu like symptoms.

Counterindications:

Pregnancy, not contraindicated, go to your OBGYN or Phycian

How to access medical services:

You as the employer can decide where and when to have this offered.

Some groups don't build immunity as fast:

Older, Obese, Smoker, Location of HIP ?

Exposure Incident



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

Post-exposure follow-up

- Definition of “exposure”
- Selecting medical service
- Informing the employee
- Recordkeeping
- Confidentiality of results



Def of Exposure ?

Selecting Medical Service : Do this ahead of tiical me. Decide where you want to send them

Medical Record--not the Boss, not HR.... If you don't have this set up,leave the record at the Urgent Care Facility.

Keep these records 30 years beyond employment.

Needle Sticks recorded on the OSHA log.

Blood spill clean-up



- **Equipment used**
- **Analyzing your needs**
- **Purchasing appropriately**
- **Approved disinfectants**

Do not have to have a Kit

- EPA Approved
- Tuberculosis (cidal)
- Hepatitis B approved

Absorbent, Disinfect & Through away

- 1part bleach & 10 parts water
- No older than 24 hours
- Education thing
- Bleachcorrosive

Dispatch -- a stabilized bleach solution has a shelf life of 1 year

Lysol IC (Infection Control)

Don' t be impressed by just AIDS control

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

Engineering Controls means controls (e.g., sharps disposal container, self-sheathing needles) that isolate or remove the bloodborne pathogens hazard from the workplace.

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

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

Licensed Healthcare Professional is a person whose legally permitted scope of practice allows him or her to independently perform the activities required by paragraph

HBV means hepatitis B virus.

HIV means human immunodeficiency virus.

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 to differentiate between body fluids;
- (2) any unfixed tissue or organ (organ than intact skin) form a human living or dead; and
- (3) HIV-containing cell or tissue culture, organ cultures, and HIV or HBV-containing culture medium or other solutions; and blood, organs, or other tissues form experimental animals infected with HIV or HBV.

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

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

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

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

Research Laboratory means laboratory producing or using research laboratory-scale amounts of HIV or HBV but not in the volume found in production facilities.

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. Example 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 hospice 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 infectious control. According to the concept of Universal Precaution 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.)

Exposure Control Plan Each employer having an employee with occupational exposure shall establish a written exposure control plan designed to eliminate or minimize employee exposure.

Student Handouts

Bloodborne Pathogens Division of Safety & Hygiene

BLOODBORNE PATHOGENS




Bloodborne Pathogens Division of Safety & Hygiene

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Bloodborne Pathogens Division of Safety & Hygiene

Bloodborne Pathogens

Pathologic organisms present in human blood that can cause disease in humans



Means of Transmission

- Unsafe sexual practices
- Sharing of needles
- *Skin punctures or contact with non-intact skin*
- *Exposure to eyes, mouth or nose*
- Mother to infant
- Blood transfusion



Hepatitis A

- Not bloodborne
- Severity of disease
- Poor sanitation
- Raw seafood
- Daycare centers
- Vaccine



Hepatitis B

- Most common occupationally-acquired infection
- Current number of cases
- Type of workers affected
- Vaccine available
- Outcomes



Hepatitis B

Found in:

- Blood
- Vaginal Secretions
- Semen
- Saliva



Signs and Symptoms:

- Nausea
- Lack of appetite
- Fatigue
- Joint pain
- Dark urine
- Jaundice
- Fever




Hepatitis C



- Previous name
- Blood tests
- Degree of risk
- Current trends for workers
- No vaccine available

Bloodborne Pathogens Division of Safety & Hygiene

HIV




- History
- Statistics
- Positive HIV
- No vaccine, no cure
- Degree of risk
- Health care workers

Bloodborne Pathogens Division of Safety & Hygiene

HIV Signs & Symptoms

(many have all, none, or some)

- Night sweats
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Bloodborne Pathogens Division of Safety & Hygiene

Exposure Control



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Other Potentially Infectious Materials



Semen	Vaginal Secretions
Sterile body fluids	"Visibly" soiled

DOES NOT INCLUDE:

- | | |
|-----------|-----------------------------|
| - Sputum | - Sweat, Tears, Urine/Feces |
| - Vomitus | - Nasal Secretions |

Collateral Duties

First Aid Providers

- Federal Coverage
Exposure
- State Coverage
Exposure Incident



Methods of Control

(1) Engineering controls



Methods of Control (Cont.)

(2) Work Practice Controls

- Hand-washing
 - soap selection
 - alternatives
- Universal Precautions



Universal Precautions

An approach to infection control. All human blood and certain body fluids are treated as if known to be infectious.



Methods of Control (cont.)

(3) Personal Protective Equipment

- Selection
- Adequate fit
- Maintenance
- Latex sensitivity



Gloves

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Blood spill clean-up



- Equipment used
- Analyzing your needs
- Purchasing appropriately
- Approved disinfectants
