

# Health Module 4

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## Blood Borne Pathogens

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### BLOOD BORNE PATHOGENS

Head Start will adhere to the OSHA Blood borne Pathogens Standard, 29 CFR 1910, 1030, and follow the Exposure Control Plan developed for this agency. This policy is not meant to replace the individual facility's responsibility to be familiar with the standard and its requirements.

The purpose of the Exposure Control Plan is to provide guidelines for minimizing or eliminating occupational exposure of blood and other potentially infectious material to employees and children in Head Start centers.

#### DEFINITION

- **Universal Precautions** emphasizes that all people should be treated as though they have potential blood borne transmissible disease. Thus all body secretions should be handled with care to prevent the spread of disease.
- **Exposure Incident** means a specific eye, mouth, or other mucous membrane, non-intact skin, or potential contact with blood or other potentially infectious materials that occurs during the performance of any employee's duties.
- **Occupational exposure** means reasonably anticipated skin, eye, mucous membrane, or potential contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
- **Potentially infectious materials** means:
  - a) **These** body fluids: semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, peritoneal fluid, amniotic fluid, saliva, 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.
  - b) **Any** unfixed tissue or organ (other than intact skin) from human (living or dead):
  - c) **Blood**, organs, and tissues from animals and cultures and solutions containing 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.

- **Blood borne Pathogens** are disease-causing microorganisms that may be present in human blood. They may be transmitted with any exposure to blood or OPM. Although there are a number of blood borne diseases, which exist in the blood (Hepatitis C, Hepatitis D, CMV, Syphilis, etc.), the two diseases of greatest concern are HBV and HIV.

### **HEPATITIS B INFECTION (HBV)**

- HBV is one of five viruses that cause illness directly affecting the liver.
- The symptoms of HBV include weakness, fatigue, nausea, fever, abdominal pain, anorexia, and headache. Jaundice (a yellow discoloration of the skin) may also develop.
- HBV may have no symptoms and therefore may not be diagnosed.
- 20,000 cases are reported each year.
- Approximately 10,000 workers are infected annually on the job.
- An estimated 200 workers die annually.
- Hepatitis B vaccine is the best protection

### **HEPATITIS C (HCV)**

- Hepatitis C virus causes liver disease
- Transmission of HCV includes illicit use of intravenous drugs, occupational or sexual exposure and blood transfusions.
- Symptoms may include flu-like symptoms, jaundice, muscle and joint aches.
- Affects 3.9 million of whom 2,7 are chronically ill and 8-10,000 people die each year from this disease (<3 %).
- 80% percent will have no signs or symptoms
- Persons at risk for HCV infection might also be at risk for infection with HBV or HIV.
- No vaccine to prevent HCV

### **HEPATITIS D (HDV)**

- HDV is a defective RNA virus that requires the function of HBV to reproduce itself
- Considered to be a co-infection
- Low risk for chronic infection
- Modes of transmission is from drug use or sexual contact
- No Vaccine exist to prevent
- Education to reduce risk behaviors among persons with chronic HBV
- May have no symptoms. Some persons may have mild flu-like symptoms, dark urine, light stools, jaundice, fatigue, and fever

### **HUMAN IMMUNODEFICIENCY VIRUS (HIV)**

- HIV is a virus that affects the T4 blood cells in humans and renders them less effective in preventing disease.
- HIV is the identified responsible for AIDS (Acquired Immunodeficiency Syndrome).
- Symptoms of HIV might include night sweats, weight loss, fever, fatigue, gland pain or swelling, and muscle or joint pain.

- According to the World Health Organization, 10-12 million people are infected with HIV.
- It is estimated that 1 in 250 persons in the U.S. are infected with HIV.
- As of 1992, over 160,000 people in the U.S. have died due to AIDS.

### **CYTOMEGALOVIRUS (CMV)**

- CMV is a ubiquitous human herpes virus transmitted by many routes.
- It is most commonly contracted during infancy and early childhood from the mother or during your adult life from sexual activity.
- There are several viral strains: immunity to one does not necessarily confer immunity to others.
- The virus can be recovered from urine, semen, saliva, and vaginal and other body secretions.
- Because CMV is teratogenic, pregnant women working in day care centers should take precautions to prevent exposure.
- There is no vaccine to prevent CMV or medicine to prevent CMV. The best prevention is hand washing.

#### **A) EXPOSURE DETERMINATION**

##### **POLICY**

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 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:

**CATEGORY I** Exposure anticipated in normal routine of job:  
Nurse Practitioner, and Health Assistants.

**CATEGORY II.** Only occasional exposure anticipated in normal routine of job:  
Site Coordinator, Teacher, Teacher Assistant, Custodian, Health Assistant, and Health Specialist.

**CATEORY III.** No exposure anticipated in normal routine of job: However, exposure may occur if emergency is encountered:  
Social Service Specialist, Social Service Assistant, Receptionists, Special Service Specialists, Bus Drivers, Cooks, Cooks Assistant, Nutrition Coordinator, Education Director, Education Specialist, Health Services Director, Parent Involvement Director, Parent Involvement Specialist, Mental Health Specialist, Special Services Director, Speech Pathologist, Nutrition Specialist.

#### **B) METHODS OF MINIMIZING EXPOSURE**

##### **POLICY**

Employees will adhere to the practice of Universal Precautions to prevent contact with blood and other potentially infectious materials. All blood or other potentially infectious material will be considered infectious regardless of the perceived status of the source individual.

## **1) ENGINEERING CONTROLS**

One of the primary purposes of this plan is the use of engineering controls to minimize or eliminate employee exposure to blood borne pathogens. The following engineering controls are being implemented in this facility:

### **a) Hand washing facilities**

- i. Hand washing facilities are readily available for use by staff. They are located in individual classrooms, or a central restroom area.
- ii. Where hand-washing facilities are not readily accessible, antiseptic hand cleanser and clean towels, paper towels, or Towelettes are available. When antiseptic hand cleansers or towelettes are used, hands should be washed with soap and running water as soon as possible following child contact or following any procedure.
- iii. Employees will carry “fanny packs” on all field trips and playground activities, as well as any activities, which require leaving the immediate area of the room. “Fanny packs” will
- iv. Contain antiseptic towelettes and/or hand cleansers, including other personal protective equipment, while away from hand washing facilities. The teachers/aides will be responsible each day to check and re-stock “fanny packs.” The Health Specialist will be notified when supplies are low.

## **2) WORK PRACTICE CONTROLS**

In addition to engineering controls, the work practice controls described below have been implemented to minimize exposure to blood borne pathogens. Many of these practices have been in effect as part of the Infectious Control Program.

### **a) Hand washing**

- Employees shall wash their hands with soap and running water as soon as possible after removal of gloves or other personal protective equipment.
- An employee shall wash hands and any other skin with soap and water as soon as feasible following child contact and immediately following any procedure.

### **b) Handling disposable sharps:**

- Contaminated sharps are not to be recapped, manipulated, or removed by hand unless no alternative is feasible or is necessary for a specific medical procedure.
- Any recapping of needles shall be performed with a one-handed technique.

- Contaminated needles and/or lancets are to be placed in a designated sharps container after use.

**c) Eating, drinking, and hygiene:**

- Eating, drinking, applying cosmetics, or handling contact lenses is prohibited in work areas where potential exposure could occur.
- Smoking is also prohibited in work areas.

**d) Handling laundry:**

- Contaminated laundry, which includes laundry that has been soiled with blood or other potentially infectious materials, shall be handled with caution.
- Contaminated laundry shall be removed and cleaned as soon as possible, using soap and water at a hand washing facility.
- While wearing latex gloves, care shall be taken not to splash blood tinged droplets into mucous membranes.
- Further laundering shall be done as soon as possible and in a manner to prevent contamination.

**e) Prohibition of mouth pipetting and suctioning:**

- Mouth pipetting and suctioning is prohibited.

**f) Contaminated equipment:**

- Center for Disease Control recommends bleach solution for environmental sanitation. It is one of the disinfectant methods currently recommended as being effective against BOTH the HIV (AIDS) and Hepatitis B virus.
- When using bleach and water in a 1:10 solution, the mixture needed is 1 part bleach and 10 parts water. This concentration can be achieved by mixing 1½-cup bleach with 1 gallon of water or 6 tablespoons bleach per quart of water. (Oregon State Health Division, 1988)
- Bleach should be mixed with cool water. Warm or hot water inactivates the basic ingredient, hypochlorite.
- Allow at least 10 minutes contact time with bleach solution.

**THE BOTTLE SHOULD BE CLEARLY LABELED AND STORED IN A SECURE AREA. CONTAINERS SHOULD NEVER BE OF A TYPE IN, WHICH FOOD IS USUALLY STORED.**

*Adapted from: Preventing the Spread of Infections Agents, 2<sup>nd</sup> Edition (1986) California State Department of Education manual, Community Health Nursing (1984), Carolyn Pinion Elkins, and Educating Students with Severe and Profound Handicaps, 2<sup>nd</sup> Edition (1988), Les Sternberg, editor.*

- 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.
- Permanent items such as furniture, toys, etc. which become contaminated shall be decontaminated immediately using gloves and a bleach solution of one part bleach

solution to ten parts water, or other designated disinfectant. If using a bleach solution, it must be mixed daily to ensure that it meets OSHA standards.

- Soiled cleaning cloths and gloves shall be disposed of in a separate trash bag, which shall be closed tightly and then placed in regular trash.

**g) Handling regular trash:**

- The teacher and/or teacher assistant will be responsible for bagging all trash at the end of the day, and at any other time.
- Gloves will be worn while collecting the trash.

**j) Overseeing work practice controls:**

- The Site Coordinator is responsible for overseeing the implementation of work practice controls.

**3) 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.

**a) Gloves**

- Gloves shall be worn when an employee anticipates contact with blood or other potentially infectious materials including mucous membranes;
- The employee will make an effort to avoid picking up a child to comfort him/her without first evaluating and anticipating possible exposure to blood before handling or touching contaminated items or surfaces.
- All employees required cleaning up feces; vomitus or other potentially infectious material would exercise Universal Precautions by wearing gloves.

**b) Resuscitation masks**

- Resuscitation masks, such as micro-shields shall be worn in situations where CPR is anticipated or initiated.

**c) Accessibility**

- Appropriate personal protective equipment is available in various sizes.
- Hypoallergenic and powdered gloves available in various sizes.
- Personal protective equipment is available in all rooms.

**d) Cleaning, laundering, discarding repairs. So that personal protective equipment is not contaminated, the Head Start of Greater Dallas centers will adhere to these practices:**

- Non-disposable or re-usable personal protective equipment is to be inspected by the Site Coordinator or designee and repaired or replaced as needed.
- The Site Coordinator or designee will clean, launder, and decontaminate reusable personal protective equipment as needed (at no cost to the employee).
- Contaminated single-use personal protective equipment (or equipment that cannot be decontaminated) that is defined as regulated waste is discarded in red color-coded bags. If it does not meet the definition of regulated waste, it shall be disposed of in the regular trash.

#### 4) HOUSEKEEPING CONTROLS

Maintaining the Head Start of Greater Dallas schools in a clean and sanitary condition is a critical part of this plan.

##### a) Cleaning schedule

- Each employee is to see that work areas are maintained in clean and sanitary conditions.
- Each classroom teacher/teacher assistant shall maintain and implement schedules for regular cleaning and decontaminating work areas at the end of each day.
- School custodians will clean/disinfect restroom daily.

#### 6) POST-EXPOSURE VACCINATION (*De minimis Classification*)

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. OSHA will allow employers to offer Hepatitis B vaccinations to certain employees within 24 hours of possible exposure rather than offering pre-exposure vaccination.

*Collateral duty* means resounding solely to injuries resulting from workplace incidents, generally at the location where the incident occurred.

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.

#### **Procedure to merit the *de minimis* classification:**

- 1) 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.
- 2) 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. The person to determine if a true exposure incident occurs: The Site Coordinator, and the Safety Director.

3) The first aid incident report must be signed off and dated by that person. If a determination has been made that a true exposure incident occurred, then the employee must be provided the Hepatitis B vaccinations, and post-exposure follow-up.

**Procedure to merit the de minimis classification:** (cont'd.)

4) 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.

5) First aid providers must receive annual training under the blood borne pathogens standard that covers the specifics of the reporting procedures.

6) 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 occur, 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 employer at this named facility, Head Start of Greater Dallas, Inc. has determined to offer Hepatitis B vaccinations under the following manner:

**A) CATEGORY I**

✓ Employees will be offered the vaccinations pre-exposure.

**B) CATEGORY II & III**

✓ Employees will be offered the vaccinations post-exposure.

**7) POST-EXPOSURE EVALUATION AND FOLLOW-UP (HC-18)**

When the employee incurs an exposure incident, it should be reported immediately to the Site Coordinator, Safety Director and the Health Coordinator.

If an exposure incident occurs, then the employee must complete an Occupational Exposure Incident Report (HC-18). Exposure incidents are also recorded as work-related injuries and on the OSHA log. All employees who incur an exposure incident will be offered post-exposure follow-up.

**Procedures for Follow-up:**

1) Documentation of the route of exposure and the circumstances related to the incident.  
2) 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.

3) 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.

4) The employer shall offer the exposed employee blood collection and testing. The employee has the right to refuse either or both. An accredited laboratory at no cost to the employee shall perform any blood test. The designated accredited laboratory this facility will use is:

**Concentra Medical Centers**

**Located throughout Dallas County**  
**8:30 a.m. – 5:30 p.m.**

- 5) The employee will be offered the option of having his/her blood collected for testing of his/her HIV/HBV serological status. The blood sample will be preserved for at least ninety (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 be conducted then the appropriate action can be taken and the blood sample discarded.
- 6) 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 exposed employee shall be offered a medical evaluation of any reported illnesses within twelve (12) weeks of the exposure incident and counseling at no charge to the employee.
- 7) Healthcare Professional's evaluation: The employer shall provide the employee with a copy of the evaluation healthcare professional's written opinion within fifteen (15) days of completion of the evaluation. Such evaluation shall be included in the employee's medical record, and, in keeping with confidentiality, the opinion shall be limited to the following information.
- 8) The Health care professional's determination of administering the Hepatitis B vaccination and whether or not 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.
- 9) The designated healthcare professional that this facility chooses to use is  
Dorruth Boyd  
6502 Military Parkway, Suite 200  
Dallas, TX.  
(214) 275-2062, Ext. 35  
8:00 a.m. – 5:30 p.m.

**8) MEDICAL RECORDKEEPING**

Confidential medical records are kept on an employee involved in an exposure incident. The Safety Director shall be responsible for setting up and maintaining these records that include:

- Employee's Name and Social Security Number
- A copy of the employee's Hepatitis B vaccination status (including dates of vaccinations, and signed consent of declination forms).
- Copies of the evaluation of the examination, medical testing and follow-up procedures took place as a result of the exposure incident.
- A copy of the healthcare professional's written opinion.

**Storage.** Medical records regarding an employee's exposure incident shall be kept for the length of employment, plus thirty (30) years.

**Confidentiality.** Employee medical records are confidential and are not to be released except with the employee's written consent or in accordance with federal and state law. Employee medical records shall be maintained separately from the employee's personnel file.

## **9) SIGNS AND LABELS**

The most obvious warning of possible exposure to blood borne pathogens is biohazard labels. This facility uses labels of the type shown at the end of this plan or when appropriate, using "color-coded" containers such as red bags. The Safety Director is responsible for setting up and maintaining this program.

The labeling program includes:

- Containers of regulated waste.
- Sharps containers.

On labels tagged to contaminated equipment, the employee shall also indicate which portions of the equipment are contaminated.

## **10) INFORMATION & TRAINING**

The employer recognized that having informed employees is important when attempting to prevent or minimize occupational exposure to blood borne pathogens. Employees who have a potential for exposure to blood borne pathogens are presented a comprehensive training program and furnished with information on a variety of subjects dealing with blood borne pathogens. Employees will be trained annually to keep their knowledge current. Any new employees or any employee, who is changing tasks or job classifications, will be given additional training.

The Training Department is responsible for developing the training program. The Health Coordinator shall monitor the effectiveness of the training program through monitoring or employee work practices. Health Specialist will provide blood borne trainings to staff when indicated.

### **Training Topics**

The training program shall include the following:

- OSHA standard for Blood borne Pathogens
- Epidemiology and Symptomatology of blood borne diseases
- Modes of Transmission of blood borne Pathogens
- Exposure Control Plan (i.e. Points of the Plan, Lines of Responsibility, how the plan will be implemented, etc.)

### **Procedures that might cause exposure to blood or other potentially infectious materials at this facility.**

- 1) Control methods, which will be used at the facility to control exposure to blood or other potentially infectious materials.

- 2) Personal protective equipment available at this facility and who should be contacted.
- 3) Post Exposure evaluation and follow-up
- 4) Signs and labels used at the facility
- 5) Hepatitis B vaccine program at the facility.

### **Program methods and schedule**

#### ***Training presentations make use of the following techniques:***

Classroom atmosphere with personal instruction.

- Professional presentations by individuals trained in the specific programs being presented.
- Training manuals and handouts.
- Audio-visual materials.
- Time is allotted for a question and answer session.

### **Training records**

#### ***The Training Department shall maintain employee-training records, which shall include:***

- Dates of training sessions.
- Material covered.
- Names and job titles of the trainers and their qualifications.
- Names and Social Security number of the employees in attendance.
- The employee must attend the full session; no partial attendance of sessions will be permitted.

### **Training records**

#### ***The Training Department shall maintain employee-training records, which shall include: (cont'd.)***

- Training records shall be on file for three years from the date of the training programs.
- Training records are available upon request of the employee or if requested by an OSHA officer. If the employer should cease to do business and there is no employer to take over the business, the clinic must notify OSHA at least three months prior to discarding of the records.

## **SHARPS CONTAINERS**

Containers for used sharps must be puncture resistant. The sides and bottom must be leak-proof. 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 close as possible to the area of use. In some cases, they may be placed on carts to prevent access to mentally disturbed or pediatric patients.

Containers also should be available wherever sharps may be found, such as in laundries. The containers must be replaced routinely and not be overfilled, which can increase the risk of needle sticks or cuts.

## PROCEDURE

- 1) Each center will have an eight- (8) gallon sharps container for disposal of larger quantities of regulated/bio-hazardous materials.
- 2) The Health component staff will replace these containers when the containers have reached their capacity.
- 3) Each Health Assistant will have a one- (1) gallon sharps container for their medical procedures.
- 4) Both containers will be taken to the Health component office by the Health staff when the sharps containers have reached their capacity.
- 5) The Health Administrative Assistant will call the Waste Management services for pick-up when the sharps containers are brought the Health component office.
- 6) The Health Administrative Assistant will order replacement sharps containers for distribution to all Head Start centers and Health staff upon request.

## QUIZ

- 1)  True  False Feces, urine, and vomit can put us at risk of exposure to blood borne pathogens whether or not they contain visible blood?
  - 2)  True  False You need to wash your hands after removing gloves only when you touched the contaminated side of the glove.
  - 3)  True  False Hand washing is your main protection against the spread of infection.
  - 4)  True  False Universal Precautions were developed to prevent the transmission of blood borne pathogens when providing first aid and health care.
  - 5)  True  False You should treat all blood and all body fluids as though infected with some pathogen.
  - 6)  True  False Always use a pocket mask (if available) or other respiratory device when you have to resuscitate someone in an emergency.
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1-T, 2-F, 3-T, 4-T, 5-T, 6-T