

Bloodborne Pathogens Outline 18-120

I. Introduction

Millions of workers in a variety of workplaces are, or could potentially be, at risk of occupational exposure to bloodborne pathogens. Bloodborne pathogens, commonly referred to as BBP, are pathogenic microorganisms that are present in human blood and can cause disease in humans. Risk of occupational exposure means you could reasonably anticipate skin, eye, mucous membrane, or parenteral contact with blood or other potentially infectious materials that may result from the performance of your job duties. The most common cause of transmission in the workplace is when an infected person's blood enters another person's bloodstream through an open wound. The purpose of this training program is to instruct on ways to limit exposure to bloodborne pathogens. Preventing occupational exposures to blood or other potentially infectious materials can prevent occupational infections.

II. OSHA standard

- a. The Occupational Safety and Health Administration published the Occupational Exposure to Bloodborne Pathogens standard because of a significant health risk associated with exposure to viruses and other microorganisms that cause bloodborne diseases.
- b. The standard places requirements on employers whose workers can reasonably anticipate contact with blood or other potentially infectious materials, such as unfixed human tissues and certain body fluids.
- c. Its requirements address items such as Exposure control plans, universal precautions, engineering and work practice controls, personal protective equipment, housekeeping, laboratories, Hepatitis B vaccination, post-exposure follow-up, hazard communication and training, and recordkeeping.

III. Exposure control plan

In order to reduce or eliminate the hazards of occupational exposure, an employer must implement an Exposure control plan for the worksite with details on employee protection measures if employees risk occupational exposure. The Exposure control plan must be accessible to all employees and should be reviewed annually. Plan must include:

- a. A determination of each employee's potential exposure to bloodborne pathogens based upon their job duties.
- b. A description of the methods, such as engineering and work practice controls or personal protective equipment, the employer will use to limit or eliminate exposure and updates which reflect changes in technology which may further reduce or eliminate exposure.
- c. Procedures for investigation of exposure incidents.
- d. Documentation of the required annual update process, including non-managerial employee participation in the development and updating of the Exposure control plan.

IV. Bloodborne diseases

There are many different bloodborne diseases. Hepatitis B, Hepatitis C and the Human Immunodeficiency Virus, or HIV, which leads to AIDS are three which are of great concern. Medical advances have helped individuals with Hepatitis B, Hepatitis C, HIV and AIDS lead fairly normal lives but, bloodborne diseases can still be painful, dangerous and even deadly.

a. Hepatitis B

i. Hepatitis B is a virus which affects the liver. Most cases of Hepatitis B don't last long. The body's immune system typically will fight the virus off in a few months and then is immune forever. Unfortunately, some people are not able to fight the virus and end up with chronic liver infection. Such infections can lead to liver failure, cancer and even death if left untreated. Some common symptoms of Hepatitis B include:

1. Fatigue
2. Abdominal pain
3. Loss of Appetite
4. Nausea or vomiting
5. Joint pain
6. Jaundice

ii. There is a vaccine available for Hepatitis B. Employers must make the vaccine available, at no cost, to all employees who are at risk of infection. OSHA requires employees to sign a declination form should they decline the Hepatitis B vaccination provided by the employer. The declination form states that the employee understands they are at risk of acquiring Hepatitis B due to their occupational exposure to blood or other potentially infectious materials and are declining the free vaccination.

b. Hepatitis C

Hepatitis C is a viral infection that causes inflammation of the liver and can cause major liver damage, liver cancer, liver failure and even death. Many people who have Hepatitis C are not aware because they show no symptoms. People can live for years and not be aware they have Hepatitis C. For this reason, the Centers for Disease Control recommend a one-time screening test for everyone at increased risk of infection. If detected, Hepatitis C can be treated and in many cases cured.

c. Human Immunodeficiency Virus

HIV is a virus that attacks the body's immune system, specifically the CD4 cells, which help the immune system fight off infections. Untreated, HIV reduces the number of CD4 cells in the body, making the person more likely to get other infections or infection-related cancers. Over time, HIV can destroy so many of these cells that the body can't fight off infections and disease and leads to AIDS. Symptoms of HIV, which usually occur two to four weeks after infection, mimic flu-like illness and may include:

1. Fever
2. Chills
3. Rash
4. Night Sweats
5. Muscle Aches

6. Sore Throat
7. Fatigue
8. Swollen Lymph Nodes
9. Mouth Ulcers.

If you have any symptoms of any type of bloodborne pathogen disease it doesn't mean you have one of the viruses. Each of these symptoms can be caused by other illnesses. But if you have these symptoms after a potential exposure, report it to your supervisor and see a health care provider immediately. The only way to determine whether you are infected is to be tested.

V. Preventing exposure

This training program covers only workplace or occupational exposure and will not address sexual transmission. Occupational exposure to bloodborne pathogens most often occurs through parenteral exposure. Parenteral exposure occurs when pathogens enter the body through breaks in the skin or mucus membranes through such events as needlesticks, human bites and skin abrasions or cuts. Two preventive approaches to exposures which should be followed are known as Standard Precautions and Universal Precautions

a. Standard Precautions

Standard precautions are the minimum infection control practices used to prevent transmission of diseases that can be acquired by contact with blood or other potentially infectious material such as body fluids, any unfixed tissue or organ, and mucous membranes. These practices should be used when providing care to all individuals, regardless of suspected or confirmed infectious status of the person and include hand hygiene, use of PPE and safe injection practices.

b. Universal Precautions

Universal precautions is an approach to infection control whereby all bodily fluids, except sweat, are treated as if they are known to be infectious.

VI. Personal protective equipment

a. PPE should be selected based upon the type of exposure you are facing. If contact with or splatter from a potentially infectious material is reasonably anticipated, then PPE should be worn on the areas of your body that are potentially exposed. It is especially important to cover mucus membranes, skin abrasions or cuts, and your hands. PPE could include:

- i. Gloves
- ii. Mouth and eye protection
- iii. Gowns
- iv. Aprons
- v. Lab coats
- vi. Caps
- vii. Shoe covers
- viii. Resuscitation barriers or CPR masks

b. Disposable PPE should be properly discarded after use. Other forms of contaminated PPE may be reused after proper decontamination.

- c. Your employer should provide, free of charge, any necessary PPE. However, it is the employee's responsibility to wear it properly, maintain it in proper condition and to request a replacement item when PPE is unusable.
- d. Consult your supervisor for the location of PPE at your facility. It is important to remember PPE has limitations. It must be properly worn, maintained, and should be discarded if damaged.

VII. Engineering and work practice controls

Engineering and work practice controls are designed to reduce the likelihood of an exposure incident. These controls have limitations and should be used in conjunction with other methods to prevent exposure. These controls will vary with each workplace, but may include:

- a. Providing readily accessible hand washing areas or proper antiseptic hand cleaner and paper towels.
- b. Using biohazard signs, labels and containers to properly identify contaminated waste. Containers should be closable, constructed to contain all contents and prevent leakage, appropriately labeled or color-coded and closed prior to removal to prevent spillage or protrusion of contents during handling. The proper color for biological contaminated waste is red or red-orange bags or fluorescent orange labeled containers. These containers should be disposed of properly through your supervisor or an area hospital.
- c. Handling contaminated laundry as little as possible. Laundry should be transported in appropriately labeled containers and must be properly laundered.
- d. Use of safer needles and sharps disposal containers as required by the Needlestick Safety and Prevention Act. Employees should never, break, bend, recap or remove needles. In addition to needles, any sharp object such as broken glass should only be picked up by mechanical means, such as a brush and dustpan and should be disposed of properly.
- e. Limiting activity in areas with possible bloodborne pathogen exposure. This includes no eating, drinking, smoking, applying cosmetics, or handling contact lenses in potential exposure areas.
- f. Policies, procedures and needlestick devices are required to be reevaluated for effectiveness each year.

VIII. Exposure incident procedures

- a. An exposure incident is when blood or other potentially infectious materials make contact with:
 - i. Eyes
 - ii. Mouth
 - iii. Other-mucus membrane
 - iv. Non-intact skin or open skin
 - v. Or by piercing the skin
- b. Action steps
 - i. Stop and limit exposure to yourself and others.
 - ii. Thoroughly and immediately wash any exposed area of skin with antiseptic soap and water. Flush eyes, nose or mouth with water.

- iii. Report incident to your supervisor or appropriate management personnel.
- iv. Properly cleanup the area, if this is your responsibility, or make sure proper persons are notified, if it is not your responsibility. Your employer should provide proper bloodborne pathogen cleanup materials. Steps for cleanup include:
 - 1. Make sure you are wearing proper PPE.
 - 2. Containing spill using absorbent barriers.
 - 3. Removing used absorbent materials.
 - 4. Disinfecting the area with germicide or 10% bleach solution.
 - 5. Disposing of contaminated materials into properly marked containers.
 - 6. Discarding or decontaminating PPE.
- v. Complete an incident report that describes the incident including the routes of exposure, and identity of the source individual if known.
- c. As a result of this exposure incident, your blood should be tested for diseases and the test results should be discussed with you. Appropriate treatment options will also be recommended by a health care professional and your employer will be notified of certain information. The source individual's blood may also be collected and tested if consent is received. All associated expenses are to be paid by the employer and the employee has the right to complete confidentiality of all results and treatments.
- d. You will have the opportunity to receive the Hepatitis B vaccination if you had previously declined it.

IX. Training

OSHA's Bloodborne Pathogens Standard requires employers to provide information and training to workers. Employers must ensure their workers receive regular training that covers all elements of the standard including, but not limited to: information on bloodborne pathogens and diseases, methods used to control occupational exposure, hepatitis B vaccinations, and medical evaluation, including post-exposure follow-up procedures. Employers must offer this training on initial assignment, at least annually thereafter, and when new or modified tasks or procedures affect a worker's risk of occupational exposure.