Bloodbourne Pathogen Training

Bloodborne pathogens are microorganisms in blood and certain body fluids that can cause diseases in humans. Healthcare workers who obtain an exposed to these pathogens face the possibility of serious illness or even death.

The bloodborne pathogens that are most of a concern to us in the healthcare field are:

- Hepatitis B virus (HBV)
- Hepatitis C virus (HCV)
- Human Immunodeficiency Virus (HIV)

Although, there are others.

In the general population, bloodborne pathogen infections are transmitted through sexual contact, IV drug use, and direct exposure to blood and other potentially infectious body fluids. However, in the healthcare setting, workers can be exposed to bloodborne pathogens is through contact with infected blood by way of a needle stick, a cut with a sharp object or through breaks in the skin and through a mucus membrane such as the eyes or the nose.

Hepatitis B (HBV) is a disease that attacks the liver. HBV can result in a lifelong infection causing cirrhosis of the liver, liver cancer, liver failure and death. Hepatitis B is especially dangerous because it can survive in dry blood at room temperature on environmental surfaces for at least a week. Anyone with occupational exposure to blood is at risk of contracting the infection. There is a vaccine to prevent HBV and can be treated if diagnosed before serious liver damage has occurred.

Hepatitis C (HCV) is a liver disease caused by the Hepatitis C virus which is transmitted through contact with the blood of an infected person. There is no vaccine against Hepatitis C and there is no treatment after exposure that will prevent infection.

The symptoms of Hepatitis B and Hepatitis C are similar. Seek medical treatment if you are experiencing any of the following symptoms:

- Fever
- Fatigue
- Loss of appetite
- Nausea and vomiting
- Abdominal pain
- Dark urine
- Clay-colored bowel movements
- Joint pain
- Yellowing of the skin and eyes (jaundice)

SSMHealth at Home

Bloodbourne Pathogen Training

Human Immune Deficiency Virus (HIV) is the deadly virus that causes AIDS (Acquired Immune Deficiency Syndrome). HIV is transmitted through exposure to the blood of someone infected. There is no vaccine or cure for HIV or AIDS.

HIV/AIDS can NOT be transmitted through:

- Air
- Saliva, sweat or tears
- Drinking fountains
- Mosquitoes or ticks
- Casual contact such as holding hands or sharing drinking glasses
- Closed mouth or "casual" kissing

The symptoms of HIV are:

- Fever higher than 100 F (38 C) for many weeks
- Continual unexplained fatigue
- Headache
- Enlarged lymph nodes
- Soaking night sweats
- Chronic diarrhea
- Blurred and distorted vision
- Cough and shortness of breath
- Skin rashes or bumps
- Constant white spots or unusual lesions on your tongue

In order for infection transmission to occur, four conditions must exist simultaneously. First, there must be a sufficient amount or dose of infectious material present. Health authorities have defined a single drop of blood or infectious material as enough to constitute a sufficient hazard. Second, a sufficient virulent or deadly nature of the disease must exist. Third, there must be an available portal of entry such as the eyes or nasal passage, a needle puncture or an open wound. And fourth, there must be a lowered resistance level of the worker. In other words, if you are tired or have the flu, you become more susceptible to infection.

Most exposures do not result in infection. Following an exposure, the risk of infection may vary with factors such as the pathogen involved, the type of exposure and the amount of blood or body fluid involved in the exposure. If your job duties place you at risk of exposure to bloodborne pathogens, your employer must provide you with bloodborne pathogen training, the Hepatitis B vaccination and appropriate personal protective equipment. An effective approach to preventing occupational exposure to Hepatitis B, Hepatitis C, HIV and other bloodborne pathogens is to practice standard precautions. This means that workers should assume that the blood and other body fluids from all patients are potentially infectious.

SSMHealth at Home

Bloodbourne Pathogen Training

The following body fluids are not considered potentially infectious unless they contain blood:

Feces, nasal secretions, saliva, sputum, sweat, tears, urine and vomit

Engineering and work practice controls isolate and remove hazards from the workplace. This may require you to change the way you perform various tasks such as hand-washing, laundry handling and cleaning up contaminated materials.

Hand-washing is an important part of infection control. Hand washing should be performed frequently to prevent the spread of infection to yourself and others. Hands must be washed before and after touching a potentially contaminated surface. Hand-washing with antibacterial soaps or antimicrobial soap removes and kills microorganisms and should be performed for a minimum of 15 seconds. Antibacterial hand sanitizer gel that contains at least 60% Ethyl alcohol is an acceptable substitute for soap and water. To properly use hand sanitizer, apply a quarter size dollop of sanitizer into hands, rub all surfaces of hands until completely dry or a minimum of 15 seconds.

Employers are required by OSHA to provide appropriate personal protective equipment and clothing free of charge to employees. The type of protective equipment used depends upon the expected exposure. Personal protective equipment may include gloves, masks, gowns and eye protection. Personal protective equipment should be provided in appropriate sizes and be readily accessible. Gloves must be used when there is reasonable anticipation of employee hand contact with blood or other potentially infectious materials or when handling or touching contaminated surfaces or items. Used gloves must be discarded in an impervious plastic bag that is fastened shut and disposed of at the patient home. Utility gloves may be reused as long as they are decontaminated and inspected to be sure there are no holes or cracks. Workers must wash their hands after removing all gloves.

Once a procedure is completed, personal protective equipment must be carefully removed to avoid contaminating skin or street clothes. The used personal protective equipment must be discarded in an impervious plastic bag that is fastened shut and disposed of at the patient home.

The proper way to remove gloves is to carefully pinch the cuff of the glove without allowing the fingertips to touch the skin and peel the glove away from the palm and towards the fingers, so it will be removed inside out. Make a ball of the removed glove with the gloved hand and hold on to it. Carefully slide your bare fingers inside the wrist band of the gloved hand, avoid touching the outside of the glove. Gently remove the glove inside out by pulling the glove down- so the first glove ends up inside the second glove. Discard used gloves in an impervious plastic bag that is fastened shut and disposed of at the patient home. Always wash or properly sanitize your hands after removing gloves.

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

Contaminated environmental surfaces can transmit Hepatitis B. Although the chances are small, HIV can also be transmitted from a contaminated surface. That's why it is important to decontaminate surfaces that come into contact with blood or other potentially infectious materials.

SSMHealth at Home

Bloodbourne Pathogen Training

The cleaning method chosen is determined by the type of surface to be cleaned, the substance that is present and the tasks or procedures that occur in that area. For example, a hard-surfaced floor would involve a different procedure than cleaning up carpeting. More extensive clean-up efforts would be necessary for gross contamination than for minor spattering. Cleaning contaminated work surfaces with the right disinfectant will ensure that people are not unknowingly exposed to blood or other potentially infectious materials that remain on the surface. Follow the manufacturer's label instructions regarding the amount of disinfectant to use and the length of time it must remain wet on the surface. Bleach solutions are considered appropriate for disinfection of environmental surfaces and for decontamination of site following the initial wiping up of spills of blood or other potentially infectious materials. Contact time for bleach is generally considered to be the time it takes for the product to air dry. Because bleach solutions lose a large portion of their potency within 24 hours, the solution should be replaced daily. Bleach solutions should not be stored in glass containers.

Workers must wear gloves when handling dirty laundry. Contaminated laundry should be not be held against the skin or clothing. Do not rinse or agitate contaminated laundry as contaminated material may splash into your eyes, nose or mouth. Discard used gloves in an impervious plastic bag that is fastened shut and disposed of at the patient home. Always wash hands after removing gloves or handling dirty laundry.

An exposure incident involves contact with blood or other potentially infectious materials. It can be through a needle stick or a cut with a sharp object. It can also be through contact with the eye, mouth or other mucus membrane or non-intact skin, such as a lesion or a break in the skin around a fingernail. After an exposure incident, immediately wash the injury site with soap and water. If you experience splashes with blood or other infectious materials to the nose, mouth or skin, you should flush the site with water for a full minute. Eyes should only be irrigated with clean water. Exposure incidents must be reported to the Home Health United Hospice office immediately after flushing has occurred.

Exposure incidents can lead to serious diseases such as Hepatitis and AIDS. Immediate intervention can prevent the development of Hepatitis B and it can enable the affected worker to track the potential HIV infection. Prompt reporting can also help the worker avoid spreading the infection to others. Immediate intervention enables Home Health United to evaluate the circumstances surrounding the exposure incident to try and find ways to prevent such a situation from occurring again. Prompt reporting is also important because part of the follow up includes testing the blood of the source individual, if permission can be obtained, to determine whether that person has been infected with Hepatitis B, Hepatitis C or HIV.