TerranearPMC Safety Share

Week of March 4, 2013 – OSHA's Bloodborne Pathogen Standard

In late 1991, OSHA enacted a new standard that set requirements for employers with workers who are at risk of being exposed to blood and other human body fluids. The Bloodborne Pathogens Standard, 29 CFR 1910.1030, was a response to the growing danger posed by two particular bloodborne diseases: human immunodeficiency virus (HIV) with its related disease of Acquired Immunodeficiency Syndrome (AIDS) and the hepatitis B virus (HBV). As such, the OSHA standard is designed to protect workers from the life-threatening diseases caused by these sources.

Bloodborne pathogens are infectious microorganisms in human blood. A blood-borne disease is one that can be spread through contamination by blood. By contrast, diseases that are not usually transmitted directly by blood contact, but rather by insect or other vectors, are more usefully classified as ñvector-borne disease,ò even though the causative agent can be found in blood. Vector-borne diseases include West Nile virus and malaria.

Hepatitis B (HBV), formerly called ñserum hepatitis,ò is a major risk to employees in jobs where there is exposure to blood and other potentially infectious material (OPIM). Hepatitis, which means ñinflammation of the liver,ò (from the ancient Greek, *hepar*, meaning liver and *itis*, meaning inflamed) can be caused by drugs, toxins, autoimmune disease, and infectious agents, including viruses. Another type of hepatitis, Hepatitis C, is also a liver disease, but caused by a different viral strain (referred to as hepatitis C virus or HCV). It is the most common chronic bloodborne infection in the United States and is primarily transmitted through large or repeated direct percutaneous (meaning ñthrough the skinò such as a puncture wound) exposures to blood. HCV is spread primarily by blood-to-blood contact associated with intravenous drug use, poorly sterilized medical equipment and transfusions. An estimated 130ï 170 million people worldwide are infected with hepatitis C. Most people who are chronically infected are not aware of their infection because they are not clinically ill. Infected people can infect others and are at risk for chronic liver disease or other HCV-related chronic diseases. While a vaccine exists for HBV, there is no vaccine against hepatitis C.

Many blood-borne diseases, such HIV, can also be transmitted by other means, including high-risk sexual behavior as well as intravenous drug use.

According to the OSHA regulation, workers who may be directly exposed to blood and other body fluids should be aware of methods employed to lessen the danger of exposure. One of the most popular exposure control methods is referred to as *universal controls* and is an approach based on the concept that ñall human blood and body fluids are treated as if known to be infectious for HIV, HBV and other bloodborne pathogens.ò The OSHA standard also requires that an Exposure Control Plan shall be established by employers that have workers with occupational exposures to bloodborne pathogens. This plan needs to be written and prepared for the purpose of eliminating or minimizing employee exposure. The plan must also describe how an employer will use a combination of engineering and work practice controls to prevent bloodborne pathogen exposures. In addition, personal protective clothing and equipment, training, medical surveillance, hepatitis B

vaccinations, and signs and labels, must be discussed. Engineering controls are the primary means of eliminating or minimizing employee exposure and include the use of safer medical devices, such as needleless devices, shielded needle devices, and plastic capillary tubes.

Workers that are typically known for being at risk to bloodborne pathogens include healthcare workers (physicians, nurses, etc) as well as people that work within a laboratory or clinical setting due to needlestick injuries (*e.g.*, lack of proper needle disposal techniques and/or safety syringes).

First-aid-trained employees assigned to provide emergency first aid as part of their specific job duties are also covered by the standard. Examples include occupational nurses or employees in charge of first-aid stations. In an OSHA compliance letter (dated 10/23/1993) OSHA states that ñany employee who has occupational exposure to blood or other potentially infectious materials is included within the scope of this standard.ò Therefore, persons assigned as first aid trained providers during field/occupational activities fall within this regulation.

Janitorial, custodial, or maintenance employees are also covered under the standard when there is *reasonable* expectation that exposure to blood or other potentially infectious materials may occur. These situations can include work in a health care facility, cleanup after an accident where blood is present, or removing used syringes in a parking lot. As such, every employer must determine if there is a reasonable expectation for exposure in their given set of circumstances.

Employers must make the hepatitis B vaccination series available to all employees who have occupational exposure. They must also provide post-exposure evaluation and follow-up to all employees who experience an exposure incident. The vaccinations and all medical evaluations and follow-up must be provided at no cost to the employee, provided at a reasonable time and place, and performed by or under the supervision of a licensed physician or other licensed health care professional. Vaccinations must be administered according to current recommendations of the U.S. Public Health Service. Employees who decline the vaccination must sign a declination form as seen in Appendix A of the OSHA standard (29 CFR 1910.1030). Employees who request the vaccination series later must receive it at no cost if they continue to be exposed.

The Hepatitis B vaccination is a series of three shots. If the employee starts the series, but doesnôt get all three shots, they either have to redo the series or sign the declination statement. If the employee chooses to redo the series, the employer must still pay for it.

While engineering controls and work practices are methods to control blood pathogen exposures, OSHA also stresses personal protective equipment (PPE). Typical PPE include gloves, masks, protective eyewear with side shields, and gowns to prevent skin and mucous membrane exposures. As in all cases, it is up the each and every worker to understand the protective methods available to them and use such equipment effectively. Always talk with your ES&H professional during the assessment stage as its best to be proactive than reactive!

Success is blocked by concentrating on it and planning for it... Success is shy - it won't come out while you're watching.

Tennessee Williams