

## “Biohazardous Waste—Do You really Know”

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### Objectives:

The reader will be able to:

- Name the four different areas of waste.
- Describe an Exposure Control Plan.
- Discuss the rationale for Universal Precautions.

Medical waste can be divided into four (4) separate areas: Biohazardous waste, Biohazardous sharps waste, pathology waste and chemotherapy waste. For our purposes, we will discuss only the first two as they are more detrimental to your health should you not know how to handle them properly. Biohazardous waste is defined as: all biologically contaminated waste that could potentially cause harm to humans, domestic or wild animals or plants. Examples of these include human and/or animal blood, tissues, and certain body fluids and plant or animal pathogens. Biohazardous sharps waste includes devices that are capable of cutting or piercing and are contaminated with Biohazardous waste. Some examples include: contaminated hypodermic needles, scalpels, blades, razor and the old standby opened towel clips. This is also inclusive of the lab slides, petri dishes, test tubes and other sharp items that are used in the lab and can break.

How each of these items listed above is handled, depends upon the policies and procedures each facility or clinic has put into place. These policies and procedures are written in accordance with OSHA guidelines and is called an “**Exposure Control Plan**”. Basically, what an ECP does is to walk anyone contaminated with biohazardous waste, be it a needle stick, a splash or a hole in a glove, through a

process by which information is gathered about the contamination and how to treat it effectively. This includes a form stating what happened, a protocol for getting lab work drawn both from the staff member as well as the patient if, for instance, the contamination was thru a needle stick. This plan must be accessible to all staff members and it should be given to new members during orientation as well. This plan needs to be reviewed and updated at least yearly and should be revised if newer technology is available for use. The staff member should have the Exposure Control Plan discussed during annual mandatory training sessions. The National Institute for Occupational Safety and Health (NIOSH) recommends that If an employee experiences a needlestick/sharps injury or is exposed to blood or other body fluids during the course of work that they follow the steps listed below immediately.

Wash needlestick and cuts with soap and water.

Flush splashes to the nose, mouth or skin with water.

Irrigate eyes with clean water, saline or other sterile irrigation

Report the occurrence to your supervisor  
Seek medical treatment immediately.

In the same line as the Exposure Control Plan is the “**Universal Precautions Plan**”. What Universal Precautions does is set up guidelines which treat all human blood, body fluids, and other potentially infectious materials (OPIM) as contaminated and as such are all handled the same. This is considered an infection control issue, because there is the potential for biohazardous waste to be contaminated with HIV, HBV, and other bloodborne pathogens.

Hepatitis B is considered the major infectious health hazard to healthcare workers because it is the easiest to transmit in the workplace. One in three (3) needle sticks results in an infected

Hepatitis B worker. When differentiation between body fluid types is not possible, all body fluids shall be considered potentially infectious. [29 CFR 1910.1030 (b)]

Personal Protective Equipment is to be used whenever one comes into contact with potentially infectious waste. This is part of the Bloodborne Pathogens Standard which states: if exposure to blood and OPIM is anticipated and where occupational exposure remains, after institution of engineering and work practice controls, Personal Protective Equipment is required. [29 CFR 1910.1030 (d) (2) (i)]. PPE includes but is not limited to: masks, gloves, goggles, eye wear cover gowns or aprons with long sleeves and shoe covers. PPE is considered "appropriate" only if it does not permit blood or other potentially infectious materials to pass through 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 is used. Whenever the employee leaves the work area or facility, the PPE must be removed prior to leaving. If the cover worn by the worker is penetrated by blood or OPIM, the garment or garments are removed immediately or as soon as is feasible. (d)(3)(vi)

Gloves should be examined routinely for any holes or tears and should be replaced at that time. Gloves need to be removed after handling medical waste but before leaving the work area. This is to insure that germs or other pathogens are not spread to other workers or visitors by elevator buttons, doorknobs or even handrails. Hands should be washed with soap and water and dried thoroughly. If this is not possible, then hands should be cleansed with an appropriate waterless antiseptic hand cleaner. The reason for this is twofold. 1) In the event of a puncture to a glove, it will kill the pathogen possibly lurking on the skin. 2) It will also keep latex proteins from being

Medical waste is generally separated at the point of generation and must be handled properly using the appropriate PPE and good work practices. Biohazardous waste is usually contained within a red plastic bag, a plastic container or a especially designed cardboard box. Each of these containers will have conspicuously labeled on them the words "**Biohazardous Waste**" or will have the international symbol and the word "**Biohazard**" labeled. Biohazardous sharps containers must be rigid, puncture proof and leak resistant as well as spill proof. They must also be designed to be all but impossible to reopen when sealed and must also be properly labeled as Biohazardous. Sharps containers can be placed inside larger biohazard boxes if necessary for transportation. When containerizing Biohazardous waste, certain steps must be adhered to in order to prevent leakage or expulsion of contents during handling, future storage and transport. At no time should any worker open or otherwise handle the contents of a leaking Biohazardous container. In the event that something need to be retrieved from a sharps container, a long forcep or other instrument may be used for retrieval. At not time will the worker put their gloved hand into a sharps container.

If you are inadvertently exposed to Biohazardous waste, how is that handled? If the exposure is limited to unbroken skin, then the affected area is washed with soap and water as soon as possible after the exposure. If the exposure is more serious and involves a needle stick or exposure of Biohazardous waste to an open wound, the immediate supervisor is notified along with employee. This is, of course, after the area has been cleaned with soap and water. If possible, employee health will try and figure out what the employee was exposed to. Employee health will follow the worker for a period of time in order to make sure there will be no positive, (ie., HBV) results from the exposure. As this article shows, medical waste is nothing to sneeze at. There are some very serious diseases lurking in your trash. However, if the appropriate PPE is worn and care is taken in handling medical waste, injuries will be contained to a minimum.

Source:  
OSHA Regulations (Standards-29 CFR)  
Technician Manual, ASHCSP, 5<sup>th</sup> edition

