Introduction

A. Why am I taking this course?

B. The goal of this course is to provide you with the information you need to keep yourself and your clients safe. If you work in a healthcare facility, whether as a clinician, doctor, nurse, administrative worker or in any support position, you will benefit from this training. Your employer has determined that you have a possibility of exposure to bloodborne pathogens while performing your job and should take this training.

A. I've already had this training, so why do I have to take it again?

B. Many employers require that you participate in training annually, within one year of the previous training. You may also be asked to take subsequent training if new tasks or procedures are introduced within the organization. Your safety is of the utmost concern.

This course is designed for general audiences, however, optional details will be provided for healthcare professionals during some of the topics covered.

Course Objectives

By the time you complete this course, you should be able to:

- Explain common bloodborne pathogens, their symptoms, and modes of transmission
- Identify the regulatory text and the organization plan
- Analyze the tasks which may put you at risk, and the use of engineering controls, work practices, and personal protective equipment to reduce your risk
- Describe the hepatitis B vaccine
- Demonstrate the actions you should take and persons to contact in an emergency involving blood or other potentially infectious materials
- Recognize signs, labels and color coding associated with biohazards

Common Bloodborne Pathogens

Common bloodborne pathogens, their symptoms, and modes of transmission.

Define Bloodborne Pathogens

A pathogen is a virus, bacteria, or other microorganism which can cause a disease.

A bloodborne pathogen is one which is carried in the blood and can be spread by contact with "1) blood;

2) all body fluids, secretions, and excretions, except sweat, regardless of whether or not they contain visible blood; 3) non-intact skin; and 4) mucous membranes."

The Big 3

The three bloodborne pathogens of greatest concern are Hepatitis B (HBV), Hepatitis C (HCV), and human immunodeficiency virus (HIV).

As a healthcare worker, whether a direct care provider or in a support role, you are at a higher risk of exposure than the general population.

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Hepatitis B (HBV)

Hepatitis B (HBV) is a disease of the liver that is spread through bloodborne pathogens. Persons infected with HBV fall into three categories:

1. Those infected who do not know they are infected since they neither look nor feel sick.
2. Those infected who feel the effects of the disease and recover.
3. Those infected who live with the disease for the remainder of their life. This group may develop liver cancer or cirrhosis of the liver. This may be fatal.

No matter which category the infected person is in, they can still spread the disease

HBV Symptoms

What are the symptoms of Hepatitis B (HBV)?

Although you may not have any symptoms, common symptoms include: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and or jaundice.

The only way you will know if you have HBV is to be tested.

Hepatitis C (HCV)

Hepatitis C (HCV) is also a disease of the liver that is spread through bloodborne pathogens. Like Hepatitis B, an infected person may have no symptoms yet can still spread the disease.

HCV is diagnosed as acute or chronic.

Acute HCV infection usually occurs within six months of exposure and lasts only a short time. It is likely that persons diagnosed with Acute HCV infection will progress to Chronic HCV.

Chronic HCV infection is long-term and may develop into liver cancer or cirrhosis of the liver.

With or without symptoms, persons with Hepatitis C can spread the disease.

HCV Symptoms

What are the symptoms of Hepatitis C (HCV)?

Although you may not have any symptoms, common symptoms include: fever, fatigue, loss of appetite, nausea, vomiting, abdominal pain, dark urine, clay-colored bowel movements, joint pain, and/or jaundice. These symptoms usually occur six to seven weeks following exposure, but may appear as early as two weeks or as long as six months after exposure.

A person with Chronic Hepatitis C will most likely show liver damage.

HIV (Human Immunodeficiency Virus)

The only way you will know if you have HCV is to be tested.

HIV (Human Immunodeficiency Virus) is a disease which attacks and destroys your body's T cells. HIV uses the T cells to replicate itself, then destroys them. Once you are infected with HIV it is a lifetime disease, although it can be treated. Some, although not all, people with HIV develop AIDS (Acquired Immuno Deficiency Syndrome) which can lead to death.

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HIV Early Stage

What are the symptoms of HIV?

Early stage symptoms are similar to a severe flu. The symptoms may first occur two to four weeks after infection, although the individual may have no symptoms for ten years or more. Common symptoms include: fever, swollen glands, sore throat, rash, fatigue, muscle and joint aches and pains, and headache. Since these symptoms are so similar to the flu and other illnesses, the only way you will know if HIV is present is to be tested.

HIV Late Stage

With proper medication, a person may never reach late stage HIV, which is the transition from HIV to AIDS. Late stage HIV symptoms include: rapid weight loss; recurring fever or profuse night sweats; extreme and unexplained tiredness; prolonged swelling of the lymph glands in the armpits, groin, or neck; diarrhea that lasts for more than a week; sores of the mouth, anus, or genitals; pneumonia; red, brown, pink, or purple blotches on or under the skin or inside the mouth, nose or eyelids; memory loss, depression, and other neurologic disorders.

HBV, HCV, and HIV are transmitted by a person coming into contact with a body fluid of an infected person. These body fluids include:

- Blood
- Blood products
- Semen
- Vaginal secretions
- Amniotic fluid
- Any body fluid visibly contaminated with blood

The bottom line – any fluid from the body, except sweat, could contain a bloodborne pathogen. For YOUR safety, treat all body fluids as a potential source of risk.

Modes of Transmission

The National American Red Cross describes the primary transmission pathways as:

- Direct contact is blood or other potentially infectious material (OPIM) that is transmitted by an event such as a needlestick or fluid splashed in an eye.
- Indirect contact is blood or OPIM that are transferred from a surface such as contaminated linen or a counter.
- Respiratory droplet transmission is blood or OPIM that are breathed in from an infected person's cough or sneeze.
- Vector-borne transmission is disease that is transmitted by a flea, tick or mosquito. This method of transmission is unlikely in most work environments.

The OSHA Standard is in place to protect you from direct contact, indirect contact and respiratory droplet transmission of bloodborne pathogens.

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How Could I Be Exposed?

Some viruses, such as Hepatitis C, can survive outside the body for days. If you come into contact with a contaminated surface, improperly handled regulated waste, or laundry, you could become infected.

Then there is more direct contact such as a needlestick or cut by a sharp object; a bite; or bodily fluid splashed into your eye, mouth, or an open cut or sore.

Keep these exposure risks in mind as you perform your required tasks.

OSHA Regulation and Organization Plan

OSHA Regulation and Organization Plan

OSHA Standard 1910.1030

OSHA Standard 1910.1030 (Standard) titled Bloodborne Pathogens requires employers to

- develop an exposure control plan
- implement the use of universal precautions
- ensure the use of engineering and work practice controls
- provide appropriate personal protective equipment (PPE)
- make Hepatitis B vaccines available to workers with occupational exposure
- provide post-exposure evaluation and follow-up should an exposure occur
- communicate any potential hazards using labels and signs
- provide information and annual training to workers

This course is to provide you with information and training. The complete text of Standard is available under the resources tab of this course and on the OSHA web site (www.osha.gov).

Your supervisor has or will review the organization's specific Exposure Control Plan (Plan) with you. If you have not yet received organization specific information, please contact your supervisor, human resource department, or compliance department for review of the Exposure Control Plan.

Your organization is required to:

- Make the Plan accessible to all employees with exposure risk
- Review the Plan annually
- Update the Plan if tasks or procedures change and for new possible exposures
- Provide you with a hard copy of the Plan within 15 days if you so request

Risks and Risk Reduction

Tasks which may put you at risk, and the use of engineering controls, work practices, and personal protective equipment to reduce your risk.

Universal vs Standard Precautions

You may find the terms Universal Precautions and Standard Precautions are often used interchangeably. While the basic concept of both precautions are to keep you and your client safe from bloodborne pathogens, Universal Precautions is used by the OSHA Standard.

Standard Precautions is a newer term encompassing Universal Precautions.

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While the OSHA Standard requires the use of Universal Precautions, best practice is to follow the current Standard Precautions which go further in reducing risk to both you and your clients.

The term Universal Precautions is used in the language of the OSHA Standard. The definition from the Standard is "an approach to infection control. According to the concept of Universal Precautions, all human blood and certain human body fluids are treated as if known to be infectious for HIV, HBV, and other bloodborne pathogens." Universal Precautions were issued by the Centers for Disease Control and Prevention from 1985 – 1988.

The term Standard Precautions expands the definition of Universal Precautions. The definition from OSHA's "Healthcare Wide Hazards" document is "Standard Precautions apply to 1) blood; 2) all body fluids, secretions, and excretions, except sweat, regardless of whether or not they contain visible blood; 3) non-intact skin; and 4) mucous membranes. Standard precautions are designed to reduce the risk of transmission of microorganisms from both recognized and unrecognized sources of infection in hospitals."

Your risk is managed by use of:

Engineering controls which are devices designed to isolate or remove hazards of bloodborne pathogens from your environment, such as sharps disposal containers, self-sheathing needles, needless systems, containers for contaminated regulated waste, etc.

Work practices are the organization-wide processes and procedures designed to protect you from exposure. For example, you may be prohibited from recapping needles using a two-handed technique or may be required to put potentially hazardous laundry into leak-proof laundry bags.

Personal protective equipment (PPE) includes gloves, goggles, glasses, face shields, gown or special uniforms, etc. This personal protective equipment is provided for your benefit.

Engineering Controls

Engineering controls are devices designed to isolate or remove hazards. In relation to Bloodborne Pathogens, these may include, but are not limited to:

- Sharps Disposal Containers - must be puncture resistant, leak-proof on sides and bottom, appropriately labeled, and closeable
- Needleless Systems - devices that do not use needles for the collection of body fluids and the administration of medication or fluids
- Needles - with built-in protection to guard workers from puncture, such as self-sheathing needles
- Plastic capillary tubes - disposable tubes used for blood collection
- Biohazard Bags - must be closeable and properly colored and labeled

Work Practice Controls Introduction

Work Practice Controls include:

- Hand hygiene
- Handling sharps
- Disposal of sharps
- Handling laundry
- Cleaning contaminated surfaces and items, and
- Disposal of regulated wastes

The following describes these Work Practice Controls.

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Hand Hygiene

Washing your hands with soap and water is the preferred method for hand hygiene. When soap and water is not available, an alcohol-based hand sanitizer with at least 60% alcohol is acceptable – until thorough hand washing facilities are accessible.

Click the soap and antibacterial picture for the proper hand washing procedures.

Soap and Water

- Wet your hands with clean running water.
- Apply soap.
- Lather the front and back of your hands, between fingers, and under fingernails.
- Scrub your hands for at least 30 seconds.
    - If you don't want to use your watch for a timer, sing two or three verses of "Mary Had a Little Lamb" or the "Happy Birthday" song twice.
- Rinse your hands under running water.
- Air dry your hands or use a clean towel to dry them.

Sanitizer

- The hand sanitizer must be alcohol-based and at least 60% alcohol.
- Read the dispenser to determine the proper amount to apply.
- Apply to one hand.
- Rub over the front and back of your hands and fingers until the sanitizer has dried.
- Wash your hands with soap and water as soon as it is feasible, as sanitizers do not eliminate every type of germ.

Handling and Disposal of Sharps

A sharp is an object that has an edge or a point that is able to cut or pierce the skin, such as a syringe. Any tools which could puncture your skin should be handled with care. All tools used on a client should be considered to be contaminated and treated accordingly.

Sharps Do and Don't

- Do promptly dispose of all sharps
- Do deposit the used sharp in the sharps disposal container – this is a best practice
- Do use the one-handed technique if recapping is required and only if there is no other feasible alternative
- Use a one-handed scoop motion to slide the cap over the needle, then push against a hard surface to secure the cap
- Do use tongs or forceps to pick up a piece of glass which has broken, then dispose properly
- Don't replace a needle cap by holding the needle in one hand and the cap in the other
- Don't bend or remove a sharp with your hand(s), always use a mechanical device

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Handling Laundry

Precautions should be taken by any person handling soiled laundry.

- Do wear gloves and use puncture-resistant gloves when sorting contaminated laundry to avoid puncture by sharps
- Do wear appropriate protective clothing
- Do handle contaminated laundry as little as possible
- Do place contaminated laundry in a specifically color-coded or labeled container
- If leakage occurs or could occur through one layer of a container, place into second container
- Do consider all laundry that has or could have touched a contaminated surface as contaminated laundry
- Do have a sharps disposal container available where laundry is processed
- Don't place contaminated laundry with general laundry
- Don't sort or pre-rinse contaminated laundry in client areas
- Don't touch laundry with bare hands
- Don't leave damp laundry in machines

Cleaning Contaminated Surfaces and Items

Surfaces and items which have or could be contaminated by pathogens should be cleaned per the organization's written schedule. Please ask your supervisor where to find the appropriate cleaning schedule for your area.

When should surfaces should be decontaminated?

- Following a procedure which included exposure of blood or other potentially infectious materials (OPIM)
- When a surface or item has obviously been contaminated
- Immediately after a spill of blood or OPIM (or as soon as feasibly possible)
- At the end of each shift
- Prior to shipping any equipment for repair or cleaning (if it is not possible to completely decontaminate the surface or item, make sure to properly label and cover the item)

Cleaning Solutions

OSHA recommends the use of EPA-registered tuberculocidal disinfectants, diluted bleach solutions, or EPA-registered disinfectants be used to clean surfaces contaminated by HBV or HIV. Other disinfectants may be deemed appropriate for a particular surface in your work environment. Ask your supervisor or refer to your organization's Exposure Prevention Plan.

Difficult or Frequently Touched Surfaces

Some items or surfaces which are difficult to clean or frequently touched by blood or other potentially infectious material may have a protective covering. This covering should be cleaned when feasible and replace when it is damaged or contaminated. An example would be a cover for a computer keyboard.

Decontamination should be done using the appropriate disinfectant following organization procedures. Your supervisor should be able to advise you regarding suitable measures.

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Regulated Wastes Defined

Regulated waste is defined by OSHA as "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."

Disposal of Regulated Wastes

- Do store regulated wastes in a closeable, leak-proof container
- Do properly label container as hazardous waste
- Do ensure sharps are placed in a puncture-resistant container
- Do dispose of waste following applicable state and local laws
- Do clean and decontaminate bins or pails used to transport regulated wastes
- Don't place an item containing infected material in a container where it could be compressed and release pathogens

Personal Protective Equipment (PPE)

The definition of Personal Protective Equipment is "specialized clothing or equipment worn by an employee for protection against a hazard. General work clothes (e.g., uniforms, pants, shirts or blouses) not intended to function as protection against a hazard are not considered to be personal protective equipment" according to the OSHA Standard.

This equipment could include:

- Gloves
- Gown
- Laboratory coat
- Apron
- Goggles
- Glasses
- Face shield
- Mask
- Shoe covers
- Mouthpiece
- Resuscitation bag
- Ventilation device
- Other task specific clothing or device

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Not every piece of Personal Protective Equipment (PPE) is necessary in all circumstances or environments. These are some questions to help you determine what level of PPE is appropriate.

- Is it likely that I will touch blood or other potentially infectious material (OPIM)?
  - Use gloves
- Is it possible while doing this task that I could be sprayed, splattered, splashed, or come in contact with bloodborne pathogens?
  - Use a coat or gown, goggles, glasses, and/or face mask, etc.
- Am I in a situation where I might breathe in a bloodborne pathogen?
  - Use a mask or ventilation device
- Do I have an open cut or sore?
  - Use gloves, gown or lab coat, or other PPE which will cover that area

PPE: Your Organization's Obligations

The OSHA Standard requires your organization to

- Provide appropriate personal protective equipment (PPE). If you have an allergy to a particular PPE item or an appropriate size is not available, notify your supervisor so appropriate PPE may be provided.
- The employer shall launder, clean, and dispose of PPE at no cost to the employee.
- The employer shall repair or replace PPE as needed.
- Note: You are not allowed to launder these items off the premises.

PPE: Your Obligations

The Standard requires you to:

- Remove any personal protective equipment (PPE) as soon as feasible once it is contaminated by blood or other potentially infectious material (OPIM).
- Remove PPE before you leave your work area.
- Place soiled or contaminated PPE in the appropriate container for disposal, storage, decontamination, or laundry.
- Do not remove any PPE from the organization's premises, unless it is a specific requirement of your job, then handle as instructed.

About the Hepatitis B Vaccine

Why the Vaccine

If a healthcare worker has a risk of occupational exposure to the Hepatitis B virus (HBV), their employer must provide the HBV vaccine at no charge within ten working days of initial assignment. The purpose is two-fold

1. To prevent transmission from client to employee
2. To prevent transmission from employee to client

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Slide 5.3 HBV Vaccine Facts

The Hepatitis B vaccine is a series of three or four shots given over a six-month period.

The vaccine is considered safe with only minor discomfort located at the site of injection, as with many vaccines. According the CDC web site, since the vaccine became available in 1982, no serious side effects have been reported from the more than 100 million people have received the vaccine in the United States.

Persons with an allergy to yeast should not take the vaccine, as it is used in making the virus. If you have had a previous allergic reaction to the Hepatitis B vaccine, you should not take the vaccine.

For most persons, the risk of severe reaction to the vaccine is far less than the risk of contracting the Hepatitis B virus.

Your Rights and Obligations

If you have already had the vaccination, have had antibody testing which shows immunity, or if medical reasons prevent you from receiving the vaccine, you are not required to receive the vaccine. Your employer will ask for documentation for their records. You also have the right to decline the vaccine for your own reasons. In this case, your employer is required to obtain your signature on a Hepatitis B Declination form. Click to see the required wording for the form.

Wording for form:

HEPATITIS B DECLINATION (MANDATORY)

I understand that due to my occupational exposure to blood or other potentially infectious materials I may be at risk of acquiring hepatitis B virus (HBV) infection. I have been given the opportunity to be vaccinated with hepatitis B vaccine, at no charge to myself. However, I decline hepatitis B vaccination at this time. I understand that by declining this vaccine, I continue to be at risk of acquiring hepatitis B, a serious disease. If in the future I continue to have occupational exposure to blood or other potentially infectious materials and I want to be vaccinated with hepatitis B vaccine, I can receive the vaccination series at no charge to me.

Your employer must

- Document exceptions to the Hepatitis B vaccine requirement if you have already had the vaccine, have had antibody testing and show immunity, or if the vaccine is prevented by a health condition.
- Document you have declined the vaccine and are aware of your rights.
- Offer you the vaccine at a later date if you should change your mind.
- If the U.S. Public Health Service determines in the future that a booster dose of the vaccine is recommended, your employer will also make that booster available to you at no charge.

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Actions you should take and persons to contact following exposure to blood or other potentially infectious materials.

Emergency Involving Blood or OPIM

If you have direct contact with blood or other potentially infectious material you should take the following precautions:

- If you are cut, receive a needlestick or have an open sore: Wash with soap and water
- If there is contact with your nose, mouth, or unbroken skin: Flush with water
- If there is contact with your eyes: Irrigate with water, saline, or sterile irrigants

In all circumstances

- Notify your supervisor or department responsible for handling exposures
- Get medical assistance immediatelyThe OSHA Standard requires your employer take these actions following your exposure.
- Provide you with a confidential medical evaluation and follow-up
- Document the type and circumstances of an exposure
- Test the source individual's blood – if consent is obtained
- Test your blood – if consent is obtained
- Provide you with post-exposure prophylaxis
- Provide you with counseling
- Provide you with evaluation of the reported illness
- Provide your healthcare professional with certain information
- Obtain your healthcare professional's written opinion

Medical Evaluation

Your employer must immediately provide you access to a confidential medical evaluation. The term immediately is not defined in the Standard, as circumstances may affect the time frame. You have the right to seek a medical evaluation as soon as possible after the exposure. You also have the right for any follow-up recommended by the healthcare professional.

Beyond the Evaluation

In addition to a medical evaluation:

- You have the right to consent to have your blood collected and tested
- You may consent to have blood collected for a baseline, but not tested at that time
- Your employer does not have rights to your test results
- You have the right to receive post-exposure prophylaxis based on the recommendation of your healthcare provider and following the recommendations of the US Public Health Service
- You have the right to receive counseling
- You have the right to receive evaluation of any reported illnesses

In the event you are potentially exposed to a bloodborne pathogen, your employer has the right to request both you and the source person have your blood tested. The employer then has the right to see the results.

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Course Summary

Signs, labels and color coding to warn you of biohazards.

Communication of Biohazards

Labels are required on all biohazard material.

This is the universal biohazard symbol and it must be followed by the word “BIOHAZARD”. The symbol and word must be in a contrasting color to the background color.

The labels and signs must be predominately orange-red or fluorescent orange.

Red containers or bags may be used instead of the biohazard symbol.

Course summary

Objective Review

OSHA Standard 1910.1030 defines the requirements to keep you and your clients safe from exposure to bloodborne pathogens. You should now be able to:

- Explain common bloodborne pathogens, their symptoms, and modes of transmission
- Identify the regulatory text and the organization plan
- Analyze the tasks which may put you at risk, and the use of engineering controls, work practices, and personal protective equipment to reduce your risk
- Describe the hepatitis B vaccine
- Demonstrate the actions you should take and persons to contact in an emergency involving blood or other potentially infectious materials
- Recognize signs, labels and color coding associated with biohazards

And Finally

If you do not feel you have an understanding of these course objectives, please review any section or sections of the material prior to exiting this slide.

If you need additional information please:

- Talk to your supervisor, human resource department or organization compliance department.
- Review your organization’s Exposure Control Plan.
- Visit the OSHA (www.osha.gov) or Centers for Disease Control and Prevention (www.cdc.gov) web sites.

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