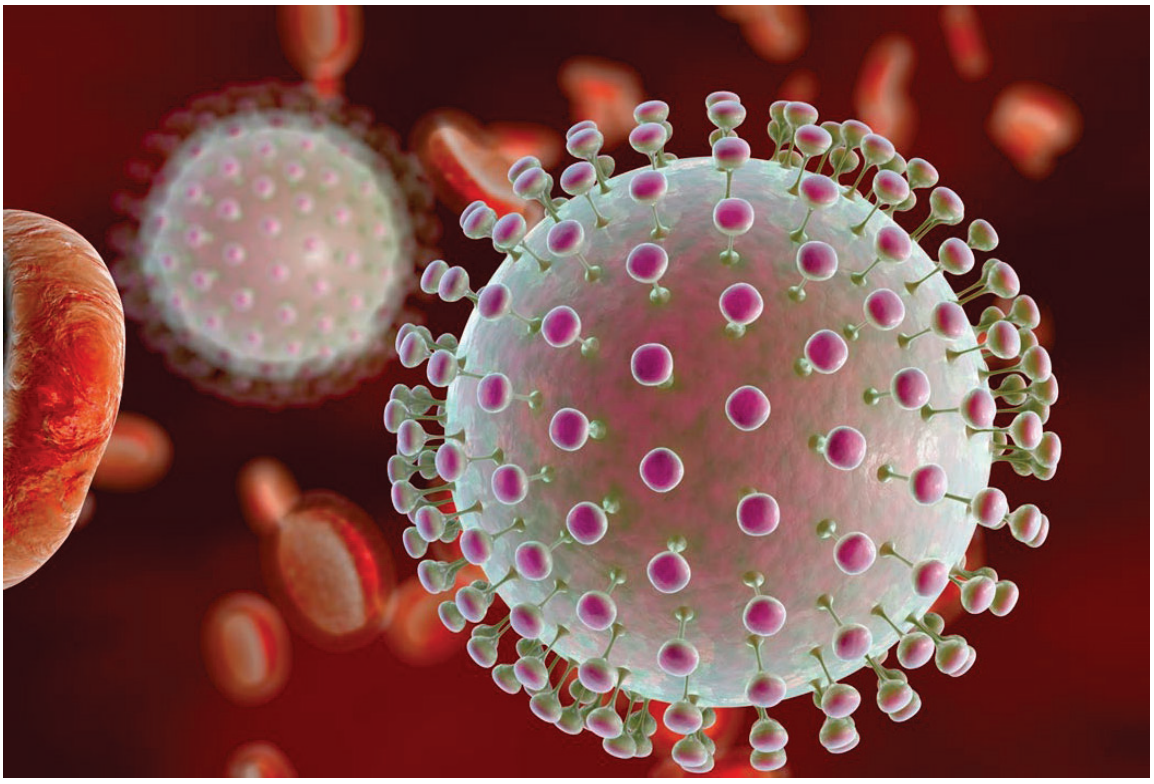
Bloodborne Pathogens and Other Potentially Infectious Material



Wolters Kluwer

Olive View- UCLA Medical Center

Description

This lesson explores the requirements for annual bloodborne pathogens training as outlined by the Occupational Safety and Health Administration (OSHA) of the U.S. Department of Labor.

Topics covered in this lesson include OSHA's Bloodborne Pathogens standard and the Centers for Disease Control and Prevention's guidelines regarding risks and precautions associated with exposure to blood and other potentially infectious material within a health care setting.

Objectives

- Identify the risk of exposure to blood and other potentially infectious material within a health care setting.
- Discuss bloodborne diseases of concern to health care professionals in the United States.
- Describe the various strategies that can reduce the risk of exposure to bloodborne pathogens and other potentially infectious material.

Overview

- Bloodborne pathogens:

  Microorganisms that can cause disease via exposure to blood or other potentially infectious material (OPIM)
- Bloodborne pathogens of concern in the United States:

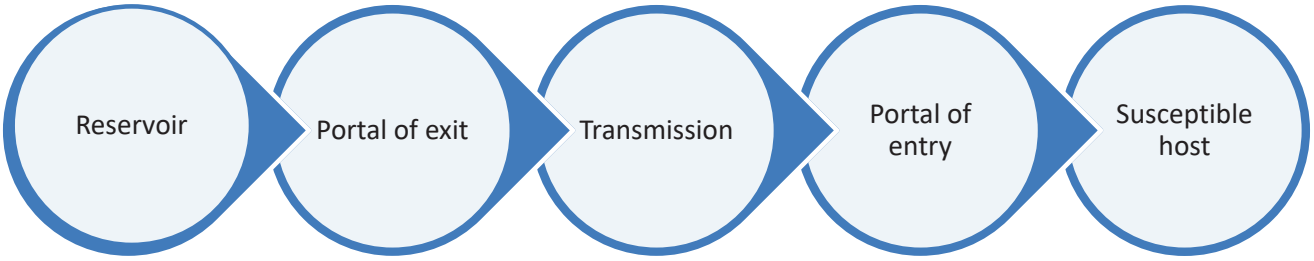
  Human immunodeficiency virus (HIV)

  Hepatitis B virus (HBV)

  Hepatitis C virus (HCV)
- Health care professionals are at highest risk

Chain of Infection

- Below you can see the process of transmission of a pathogen



- The goal is to break the chain of infection

Bloodborne Pathogens Standard

Was published by OSHA in 1991

Revised in 2000 to include needlestick safety

Describes what employers must do to protect employees from exposure to blood and OPIM

It also includes Inspections and fines for infractions

This standard requires:

- An Exposure Control Plan (ECP)
- Employee training
- Hepatitis B vaccination
- Employee training and medical records be kept
- Adherence to Standard Precautions
- Use and provision of Personal protective equipment (PPE)
- Engineering and work practice controls
- Use of Biohazard labels
- Postexposure evaluation and follow-up

Exposure Control Plan

- Eliminates or minimizes employee exposure to blood and OPIM
- Provides guidelines if an exposure incident occurs
- Reviewed and updated annually
- Incorporates employee input

- ECP components
  - List of job classifications, tasks, and procedures with potential exposure to blood and OPIM
  - Communication of hazards to employees
  - Methods of exposure control
  - Hepatitis B vaccination programs
  - Postexposure evaluation, counseling, and follow-up
  - Training and recordkeeping

Standard Precautions

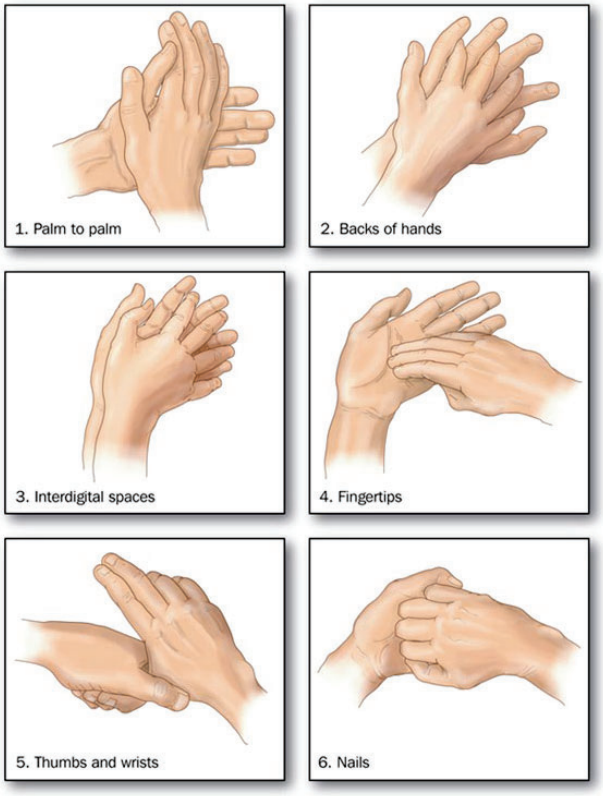
- Infection prevention control strategy in which all blood, body fluids, secretions, excretions, nonintact skin, and mucous membranes are treated as potentially infectious
- Formerly known as universal precautions
- Includes
  - Hand hygiene
  - PPE
  - Safe injection practices
  - Equipment cleaning, disinfecting, and sterilizing
- Application depends on type of care interaction

Hand Hygiene

- Most important procedure in preventing the transmission of pathogens in health care settings
- Includes both hand sanitizing with an alcohol-based hand rub (ABHR) and hand washing with soap and water
  - Hand sanitizing with an alcohol-based hand rub is preferred
    - Microbiocidal activity (kills germs)
    - Reduced drying (faster more convenient)
    - Convenience
  - Hand washing with soap and water is required when:
    - Hands are Visibly soiled
    - Or you are at risk for exposure to infectious diarrhea or spore-forming pathogens such as Clostridium Difficile

Performing Hand Hygiene

1. Wet hands (if using soap and water)
2. Apply soap or ABHR
3. Rub the hands together, covering all surfaces
4. Rinse hands (if using soap and water)
5. Dry the hands with a disposable towel (if using soap and water) or allow the ABHR to dry
6. Apply approved hand lotion or cream, as needed



Personal Protective Equipment

- Creates a physical barrier against contact with pathogens
- PPE commonly used to protect against bloodborne pathogens:
  - Gloves
  - Gowns
  - Face and eye protection
- Employers are required to
  - Provide, clean, and maintain PPE free of charge
  - Make PPE readily accessible in appropriate sizes
  - Make hypoallergenic PPE available on request

Donning and Doffing Personal Protective Equipment

- Proper donning and doffing of PPE is vital to prevent transmission of pathogens
- When donning PPE complete the following:
  - Hand hygiene
  - Gown
  - Mask
  - Face shield or goggles
  - Gloves
- All PPE is considered contaminated during and after use
- When doffing remove:
  - Gloves
  - Face shield or goggles
  - Gown
  - Mask
  - And conduct hand hygiene

Resources:

Centers for Disease Control and Prevention Sequence for Donning and Doffing PPE

Education Compliance Program (sharepoint.com)

Engineering and Work Practice Controls

- Engineering controls
  - Are physical devices or equipment used to isolate or remove hazards from the workplace
  - Examples
    - Self-sheathing or retractable sharps
    - Needleless systems
    - Plastic blood collection tubes
    - Puncture-resistant sharps disposal containers
    - Biohazardous waste containers
- Work practice controls
  - Strategies used to reduce the likelihood of exposure to hazards in the workplace
  - Examples
    - Safe injection practices
    - Safe handling of contaminated items
    - Patient positioning
    - Decontamination
    - Avoiding specific activities around blood or OPIM

Sharps Handling

- Contaminated sharps items can puncture the skin and lead to infection
- To handle sharps safely:
  - Use sterile, single-use needles, syringes, and vials
  - Activate safety mechanisms (if present) immediately after use
  - Avoid bending, recapping, breaking, or shearing needles
  - Discard used sharps in a sharp's disposal container
  - Do not touch broken glass

Biohazard Labels

These should be affixed to regulated waste containers, refrigerators and freezers containing blood or OPIM, and other containers used to store, transport, or ship blood or OPIM

The labels should be fluorescent orange or orange-red labels with a biohazard symbol in a contrasting, visible color

OR

Red bags or red containers for regulated waste disposal

Any soiled instruments *must be transported to the decontamination area in a non-penetrable red or biohazard labeled container, closed container or enclosed transport cart.*

The transport container or cart must be leak-proof, puncture-resistant large enough to contain all contents, and labeled with fluorescent orange or orange-red label containing a biohazard legend.

Decontamination

- What it means:

Prompt physical or chemical removal, inactivation, or destruction of bloodborne pathogens on a surface or item to prevent pathogen transmission and infection

- If you are to conduct cleaning and decontaminate:
  1. Don appropriate PPE
  2. Cover blood or OPIM with disposable absorbent material and allow time for absorption
  3. Discard the soiled absorbent material appropriately
  4. Saturate the area with an EPA-registered disinfectant or diluted bleach solution
  5. Wipe the area with disposable absorbent material and discard appropriately as biohazard*

Managing Exposure Incidents

If you or a coworker comes into contact with Blood or OPIM either through a mucous membrane, nonintact skin, or parenteral contact

If exposure incident occurs:

1. Clean the area of exposure
2. Report the incident in detail to a supervisor
3. Immediately seek medical attention
4. Report to Employee Health Services

Postexposure Evaluation and Follow-up

Components of a postexposure plan for evaluation and follow-up:

1. Report of the incident
2. Confidential medical evaluation
3. Identification and testing of the source patient's blood
4. Employee counseling
5. Postexposure prophylaxis
6. Evaluation of illness following exposure
7. Medical care provided free of charge
8. Maintenance of sharps injury log and medical records required

Summary

- Understanding and breaking the chain of infection is vital to prevent bloodborne pathogen transmission and subsequent disease.
- Bloodborne pathogens of concern in the United States include HIV, HBV, and HCV.
- OSHA's Bloodborne Pathogens standard addresses what health care organizations must do to protect health care professionals from exposure to blood and OPIM.
- Standard precautions are the first line of defense against exposure to bloodborne pathogens.
- Responding appropriately when exposure incidents occur is vital to reducing the risk of disease from bloodborne pathogens.

Please complete the Bloodborne Pathogens Post Test

Any questions?

Contact Environmental Health and Safety or your Unit Safety Coordinator