

PREVENTING BLOODBORNE PATHOGENS



Learning Outcomes (1 of 2)

- Describe the employer requirements of OSHA's Bloodborne Pathogens Standard.
- Describe the chain of infection as it applies to bloodborne diseases.
- Discuss bloodborne diseases of concern.
- Discuss how Standard Precautions protect against bloodborne pathogens.
- Discuss types of personal protective equipment, work practices, and engineering controls that reduce risk of exposure to bloodborne pathogens.



Learning Outcomes (2 of 2)

- Demonstrate how to properly remove medical gloves to avoid transmission of potentially infectious materials.
- Identify warning labels used in cases of suspected risk of infection.
- Summarize employer and employee actions to be taken in case of an occupational exposure to bloodborne pathogens.
- Discuss the elements of your exposure control plan.



OSHA's Bloodborne Pathogens Standard

- OSHA's Bloodborne Pathogens Standard (29 CFR 1910.1030), amended pursuant to the Needlestick Safety and Prevention Act of 2000, prescribes safeguards to protect workers against the health hazards caused by bloodborne pathogens.



Required OSHA Training

- Employers having **employees** with exposure to blood or other potentially infectious materials (OPIM) must **train employees** annually regardless of the **employees'** prior **training** or education.



Who needs OSHA Bloodborne Pathogens Training?

- Any employee who is required to handle human blood or other potentially infectious materials (OPIMs)
- Any employee who has the potential for occupational exposure to blood or OPIMs pathogens training.



Examples Include

- General Construction
- Restaurants
- Transportation
- Factories
- Teachers
- Daycare providers
- Health care providers



What are Bloodborne Pathogens?

Microorganisms such as viruses, bacteria, or parasites that can enter the human blood stream causing diseases.

Examples of Bloodborne Pathogens:

- Hepatitis B
- Hepatitis C
- Human Immunodeficiency Virus

How they enter the bloodstream:

- Mucous membranes
- Non-intact skin
- Handling contaminated sharps



The Chain of Infection (1 of 2)

- An adequate number of pathogens, or disease-causing organisms are present.
- A reservoir or source that allows the pathogen to survive and multiply (e.g., blood).
- A mode of transmission from the source to the host.
- An entrance through which the pathogen may enter the host.
- A susceptible host (i.e., one who is not immune).



The Chain of Infection (2 of 2)

Effective infection control strategies prevent disease transmission by interrupting one or more links in the chain of infection.



How Infection is Spread

- Sexual Contact
- Sharing needles and/or syringes
- Passed from mother to baby during birth
- Exposure to blood through wounds or infected sharps



How to Protect Yourself

- Avoid sharing needles, toothbrushes, and razors.
- Use protected sex (use of condom)
- Follow Standard Precautions for health-care and public safety workers
- Vaccines are also available for prevention of hepatitis B infection.



Bloodborne Diseases of Concern

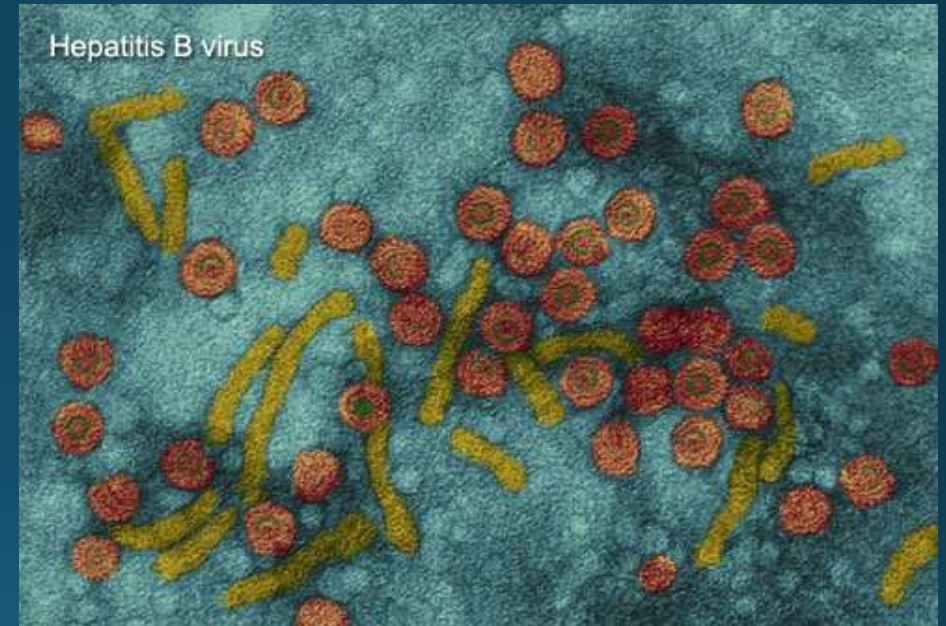


Hepatitis B (HBV)



Hepatitis B Virus (HBV)

- A contagious virus that causes inflammation of the liver.
- Affects over 1.25 million people in the US
- HBV can live outside of body for at least 7 days and longer.



Signs and Symptoms of HBV

- Fever
- Fatigue
- Jaundice (yellowing of the skin and/or eyes)
- Nausea and Vomiting
- Abdominal pain
- Dark urine
- Clay-colored bowel movements
- Loss of appetite



How Long do Hepatitis B Symptoms Last?

- Symptoms may begin as early as 60 days or up to 150 days after exposure to HBV.
- 90% of adults recover completely from HBV and do not become chronically infected.
- 90% of infants and 35% of children under the age of 5 years old will remain chronically (life long) ill with HBV.



Hepatitis C (HCV)



The Magnitude of HCV

- About 80% of the infected people will develop chronic (long-term) infection.
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- 5-20% of patients will develop chronic liver disease
- 1-5% will die because of the complications of Hepatitis C.
- There is no vaccine for Hepatitis C.



HCV Transmission

- Unlike HIV or HBV, HCV is spread primarily through parenteral contact:
 - Illegal injection drug use
 - Transfusion or transplant from infected donor
 - Tattoos



Signs and Symptoms of HCV

- Fever
- Fatigue
- Jaundice (yellowing skin and/or eyes)
- Nausea and Vomiting
- Abdominal pain
- Dark urine
- Light / clay colored bowel movements
- Loss of appetite

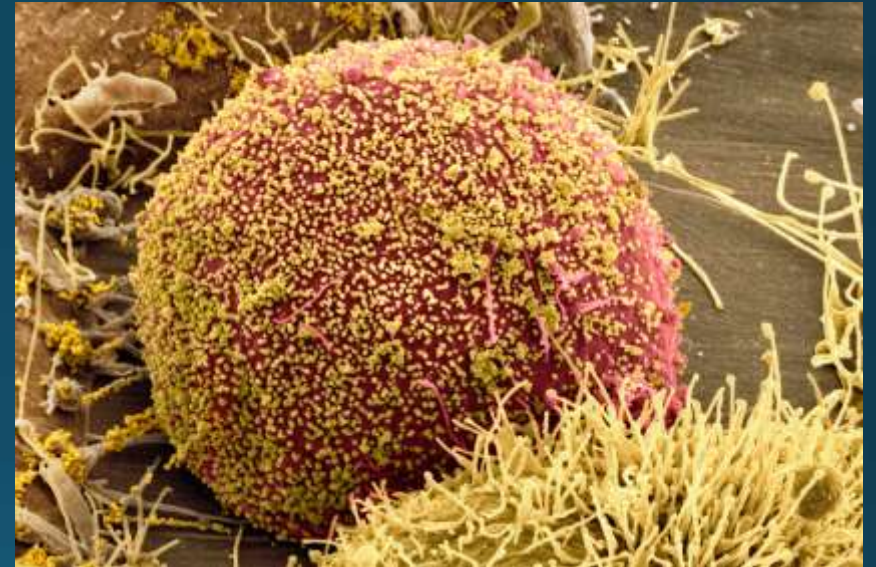


Human Immunodeficiency Virus (HIV)



What is HIV?

- Human Immunodeficiency virus (HIV) infection causes suppression of the immune system , which could lead to opportunistic infections.
- The HIV virus dies within seconds of being outside of the body



What is AIDS?

- *AIDS* stands for acquired immunodeficiency syndrome.
- AIDS may not develop for 8-10 years after the initial infection.
- AIDS is the final stage of HIV infection.
- About 1.1 Million people in the USA are living with HIV/Aids.



Signs and Symptoms of HIV

- Most of the people newly infected with HIV do not show any symptoms for many years. Some people may get flu like symptoms for few weeks after becoming infected.

Signs and symptoms may include:

- Fever
- Headache
- Sore throat
- Swollen lymph glands
- Rash



Signs and Symptoms of AIDS (1 of 2)

- AIDS may develop over an 8-10 year period after the initial HIV infection.
- AIDS is the final stage of HIV infection, when the immune system has been severely damaged, which can lead to opportunistic infections and unusual types of cancer, including Karposi Sarcoma.



Signs and Symptoms of AIDS (2 of 2)

Other signs and symptoms of Aids can include:

- Night sweats
- Chills and fatigue
- Fever >100 F (38 C) for several weeks
- Dry cough and shortness of breath
- Chronic diarrhea
- Persistent white spots or unusual lesions on your tongue or in your mouth
- Headaches
- Weight loss



Preventing Bloodborne Diseases

The Occupational Safety and Health Administration (OSHA) defined strategies to prevent or reduce exposure to bloodborne pathogens:

- Engineering controls
- Work practice controls
- Personal Protective Equipment (PPE)
- Standard Precautions



Engineering Controls

Items that isolate or remove bloodborne pathogen hazards from the workplace.



Engineering Control Examples

- Hand washing facilities
- Eye washing stations
- Sharps containers
- Biohazard labels
- Self-sheathing / retractable needles
- Needleless IV systems



Contaminated Sharps:

- Needles
- Scalpels
- Broken capillary tubes
- Dental wires

A sharps container requires a warning label. Contaminated sharps are to be discarded as soon as possible.



Biohazard Labels

Fluorescent orange or orange-red labels attached to bags or containers containing potentially infectious materials.



Needlestick Safety and Prevention Act

- Revised the OSHA BBP Standard in 2000 to further reduce health care workers' exposure to bloodborne pathogens by imposing additional requirements upon employers.
 - Solicit employee input into engineering controls
 - Implement new technologies
 - Maintain a sharps injury log



OSHA Recommendations for Needlestick Injury

- Report the injury to your employer
- HIV test and counseling
- Practice "safe" sex
- Stop breastfeeding
- Get immediate evaluation of any illness
- Call Needle stick Hotline from Department of Health and Human Services for free advice: (888) 448 - 4911



Work Practice Controls

Controls that reduce the likelihood of exposure by altering the manner in which a task is performed.

Work practice controls must be evaluated and updated regularly to ensure their effectiveness.



Hand Washing

An important method of preventing the transmission of bloodborne pathogens. It is required that you wash your hands after removal of gloves and other PPE.



Effective Hand Washing

- Wet hands with water
- Apply enough soap to cover all hand surfaces
- Thoroughly rub palms and fingers for 40-60 seconds
- Rinse hands with water
- Dry hands thoroughly with a single use towel
- Use towel to turn off faucet



Clean-up Procedures

- Work areas that involve exposure or potential exposure to blood or other potential infectious material (OPIM) must be cleaned regularly.
- Cleaning must occur at least weekly or after completion of tasks or procedures if there is a possibility of contamination.
- Use disposable towels to clean up. Dispose of the towels in a biohazard-labeled bag.
- Use a dustpan and brush, cardboard, or tongs, to clean up any contaminated broken glass.
- Isolate the area being cleaned to safeguard others.



Personal Protective Equipment (PPE)

Personal protective equipment (PPE), involves special items worn for protection against blood or OPIMs.

Learn where the PPE is located at your work place and how to use it.



PPE Examples

- Gloves
- Gowns
- Aprons
- Face & eye protection
- Masks



Glove Removal



Standard Precautions

Treat all human blood and body fluids as if they are potentially hazardous.



Examples of Standard Precautions

- Hand hygiene.
- Use of personal protective equipment (gloves, gowns, masks)
- Safe injection practices.
- Safe handling of potentially contaminated equipment or surfaces.
- Respiratory hygiene.



Exposure Control Plan

- An exposure incident is defined as a specific mucous membrane, broken skin, or puncture contact with blood or OPIM that results from the performance of an employee's duties.
- Each employer should have an exposure control plan describing the guidelines for employees to follow when an exposure occurs.



Elements of an Exposure Control Plan (1 of 2)

- Determination of employee exposure
- Implementing methods of exposure control:
 - Standard precautions
 - Engineering and work practice controls
 - Personal protective equipment
 - Housekeeping
- Hepatitis B vaccination



Elements of an Exposure Control Plan (2 of 2)

- Post-exposure evaluation and follow-up
- Communication of hazards to employees and training
- Recordkeeping
- Procedures for evaluating circumstances of exposure incidents



Course Review (1 of 2)

- Describe the employer requirements of OSHA's Bloodborne Pathogens Standard.
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Course Review (2 of 2)

- Discuss how to properly remove medical gloves to avoid transmission of potentially infectious materials.
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