

Bloodborne Pathogens



Disclaimer

- This training material presents very important information.
- Your organization must do an evaluation of all exposures, applicable codes and regulations, and establish proper controls, training, and protective measures to effectively control exposures and assure compliance.
- This program is neither a determination that the conditions and practices of your organization are safe nor a warranty that reliance upon this program will prevent accidents and losses or satisfy local, state or federal regulations.
- All procedures and training, whether required by law or not, should be implemented and reviewed by safety and risk management professionals, and legal counsel to ensure that all local, state and federal requirements are satisfied.

Course Outline

1. Why Take Bloodborne Pathogens Training?
2. Definition
3. At Risk Workers
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5. Exposure Control Plan
6. Types of Bloodborne Pathogens
7. Bloodborne Pathogens Transmission
8. Engineering Controls
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10. Regulated Waste
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12. Emergency Response
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Why Take Bloodborne Pathogens Training?

Workers in many industries are at risk:

- Approximately 5.6 million workers in the health care, dentistry, hospitality and other industries are at risk of exposure to bloodborne pathogens. These include but are not limited to: the human immunodeficiency virus (HIV – the virus that causes AIDS), the hepatitis B virus (HBV), the hepatitis C virus (HCV), syphilis, and malaria.

Regulations and standards have been set:

- The Occupational Safety and Health Administration (OSHA) has set a bloodborne pathogens standard which mandates safeguards to protect workers against the health hazards associated with the exposure to blood, needles, bodily fluids and other potentially infectious materials (OPIM).

Definition

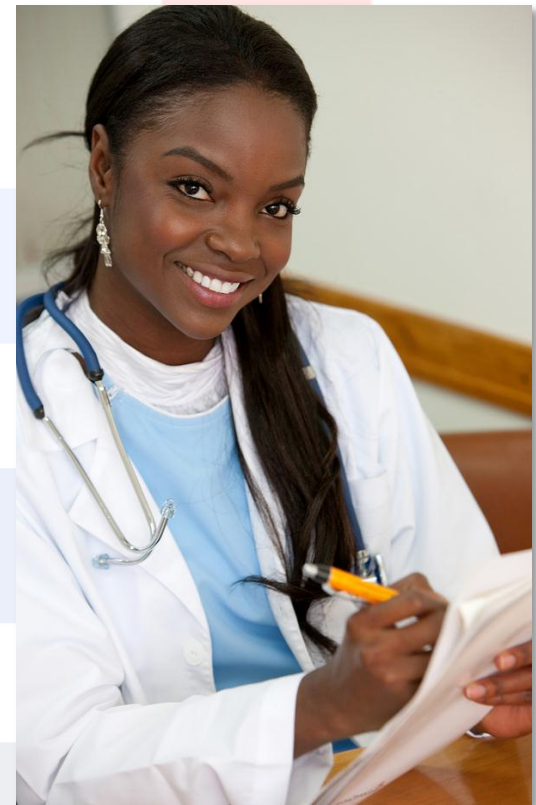
Definition of Bloodborne Pathogens:

Pathogenic micro-organisms that may be present in human blood and can cause disease in humans. These include, but are not limited to, hepatitis B virus (HBV) and human immunodeficiency virus (HIV).



Who is covered by the Standard?

- All employees who could be “reasonably anticipated” as the result of performing their job duties to face contact with blood and other potentially infectious materials.
- Those who engage in ‘Good Samaritan’ acts, such as assisting a coworker with a nosebleed, would **not** be covered under the standard because it is not considered an occupational exposure.



Who is at risk for exposure?

- Physicians, nurses, and emergency room personnel
- Orderlies, housekeeping personnel, and laundry workers
- Dentists and other dental workers
- Laboratory and blood bank technologists and technicians
- Medical examiners
- Morticians
- Law enforcement personnel
- Firefighters
- Paramedics and emergency medical technicians
- Anyone providing first-response medical care
- Medical waste treatment employees
- Home healthcare workers

Routes of Exposure

Most common causes of infection:

- Needle-sticks
- Cuts from other contaminated sharps like scalpels, broken glass, etc.
- Contact of mucous membranes (for example, the eye, nose, mouth) or broken (cut or abraded) skin with contaminated blood.



Exposure Control Plan

It identifies jobs and tasks where occupational exposure to blood or other potentially infectious material occurs.

It describes how the employer will:

- Use engineering and work practice controls
- Ensure use of personal protective equipment
- Provide training
- Provide medical surveillance
- Provide hepatitis B vaccinations
- Use signs and labels

Exposure Control Plan

Written requirements:

- A written bloodborne pathogen exposure control plan is required for each employer having a employees with occupational exposure to bloodborne pathogens. An occupational exposure means reasonably anticipated skin, eye, mucous membrane, or *parenteral* contact with blood or other potentially infectious materials that may result from the performance of an employee's duties.
- The plan must be reviewed at least annually to reflect changes in tasks, procedures or assignments which affect exposure, as well as technology that will eliminate or reduce exposure. The annual review must document the employer's consideration and implementation of safer medical devices.

“Parenteral” means taken directly into blood or muscle tissue and not thru the digestive tract.

Exposure Control Plan

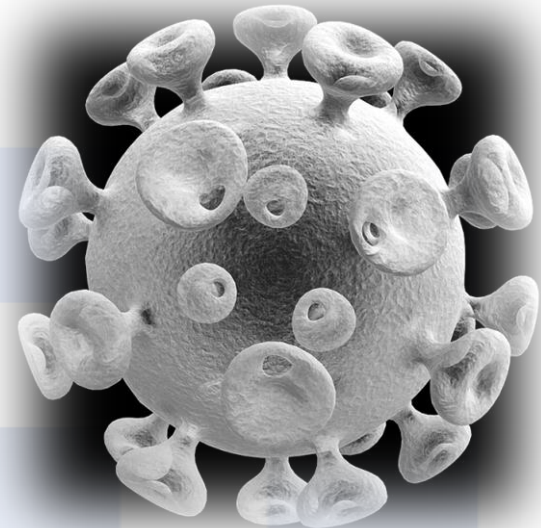
Written requirements (continued):

- It must solicit input from potentially exposed employees in the identification, evaluation and selection of engineering and work practice controls.
- The plan must be accessible and communicated to employees.

Types of Bloodborne Pathogens

Bloodborne pathogens include:

- Malaria
- Syphilis
- Brucellosis
- Hepatitis B (HBV) and C
- Human immunodeficiency virus (HIV)



Types of Bloodborne Pathogens

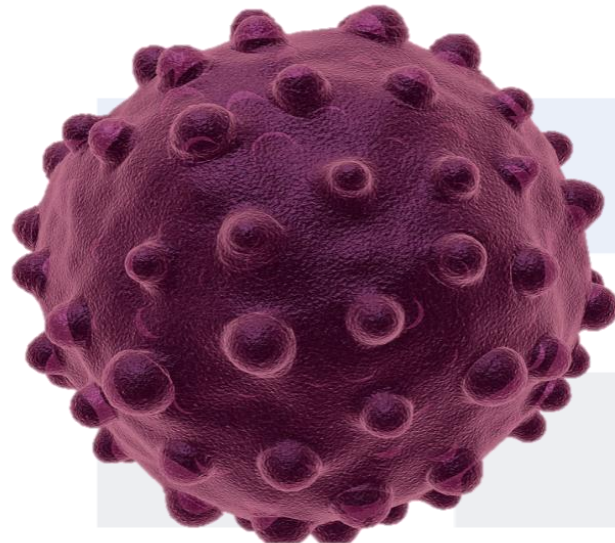
Hepatitis B (HBV):

- A virus infection and an inflammation of the liver.
- Transmitted primarily through "blood to blood" contact.
- Acute symptoms include jaundice, vomiting, liver inflammation, and in rare situations death.
- Can lead to serious conditions such as cirrhosis and liver cancer.
- Pathogen can survive in dried blood for up to seven days.

Types of Bloodborne Pathogens

No cure for hepatitis B:

- There is no "cure" or specific treatment for HBV.
- Many people develop antibodies to fight the disease which may prevent future infection.



Types of Bloodborne Pathogens

HBV symptoms:

- Mild flu-like symptoms
- Fatigue
- Possible stomach pain
- Loss of appetite
- Nausea
- Jaundice



Types of Bloodborne Pathogens

Hepatitis B vaccinations:

- Employees who are routinely exposed to bloodborne pathogens (such as doctors, nurses, first aid responders, etc.) shall be offered the hepatitis B vaccine series.
- The vaccine series consist of three shots which build immunity to HBV.



Types of Bloodborne Pathogens

Hepatitis B vaccination requirements:

The hepatitis B vaccine must be available, free of charge and at a reasonable time and place, to all employees at risk of exposure within 10 working days of initial assignment unless:

- The employee has had the vaccination.
- antibody testing reveals immunity.

The vaccination must be performed by a licensed healthcare professional.

Types of Bloodborne Pathogens

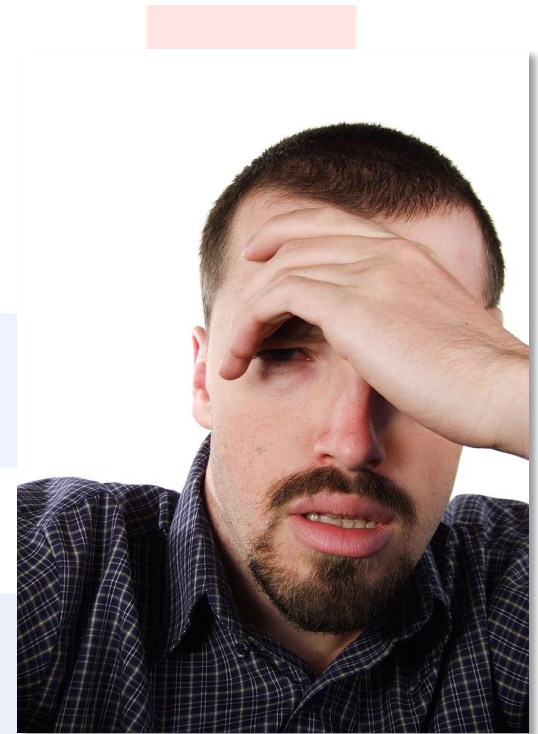
Hepatitis B vaccination requirements (continued):

- Must be made available if an employee initially declines and later decides to accept the vaccination.
- Employees who decline the vaccination must sign a declination form.
- Employees are not required to participate in antibody prescreening programs to receive vaccination series.
- Vaccination booster doses must be provided if recommended by the U.S. Public Health Service.

Types of Bloodborne Pathogens

Hepatitis C (HCV):

- Hepatitis C is the most common chronic bloodborne infection in the United States.
- Symptoms include: jaundice, fatigue, abdominal pain, loss of appetite, intermittent nausea, vomiting.
- Can lead to chronic liver disease and death.
- There is no cure or vaccine for hepatitis C, however medications can suppress the virus (treatment has a low success rate).



Types of Bloodborne Pathogens

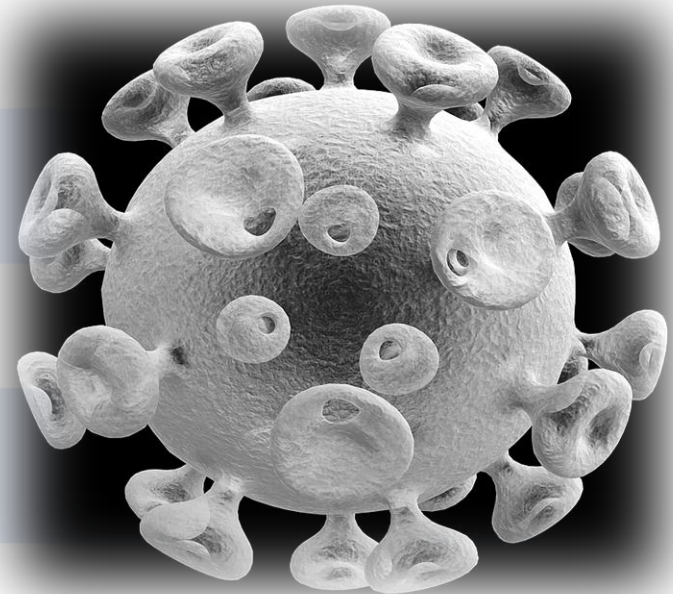
Human Immunodeficiency Virus (HIV):

- AIDS, or acquired immune deficiency syndrome, is caused by the human immunodeficiency virus, or HIV.
- HIV attacks the body's immune system, weakening it so that it cannot fight other deadly diseases. AIDS is a fatal disease and, while treatment for it is improving, there is no known cure.
- HIV is transmitted from an infected person to another through:
 - Blood
 - Semen
 - Vaginal secretions
 - Breast Milk

Types of Bloodborne Pathogens

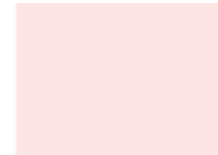
HIV and direct contact:

- The HIV virus is very fragile and will not survive very long outside of the human body.
- It is primarily of concern to employees providing first aid or medical care in situations involving fresh blood or other potentially infectious materials.



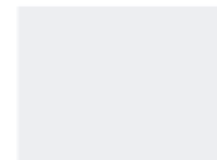
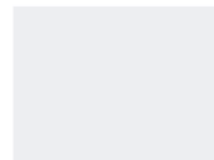
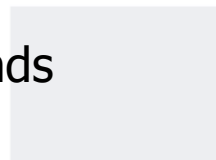
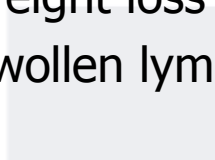
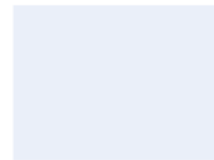
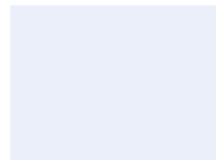
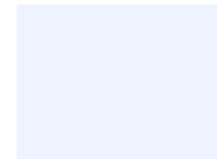
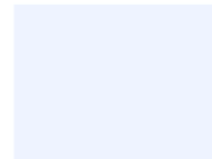
Types of Bloodborne Pathogens

HIV symptoms:



Symptoms of HIV infection can vary, but often include:

- Weakness
- Fever
- Sore throat
- Nausea
- Headaches
- Diarrhea
- White coating on the tongue
- Weight loss
- Swollen lymph glands

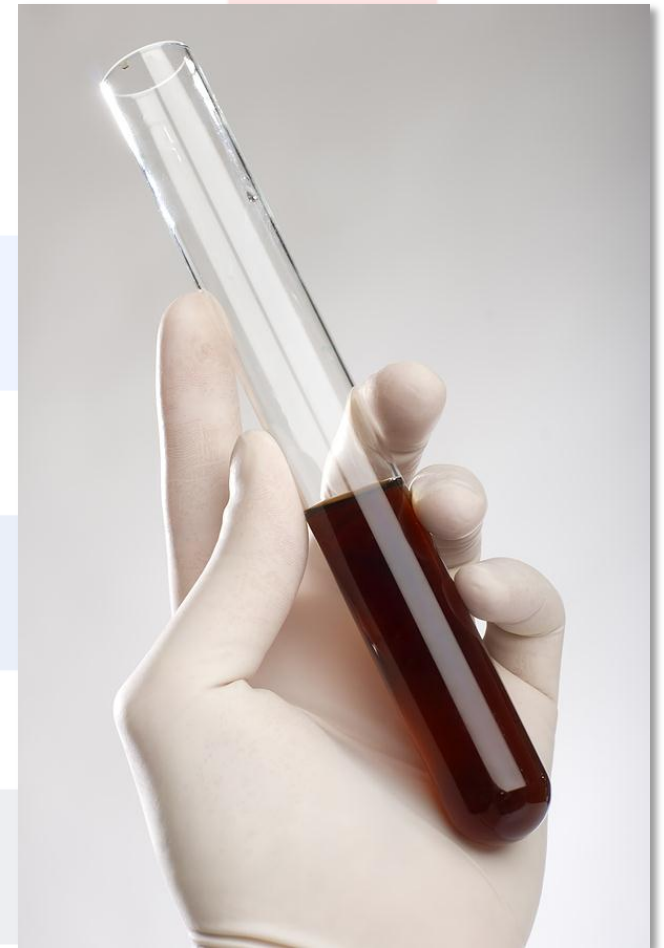


Bloodborne Pathogen Transmission

Transmission:

Generally, bloodborne pathogens are transmitted through contact with infected human blood and other potentially infectious body fluids such as:

- Semen
- Vaginal secretions
- Cerebrospinal fluid (brain spinal cord)
- Synovial fluid (joints)
- Pleural fluid (chest cavity)
- Peritoneal fluid (abdomen)
- Amniotic fluid (fluid around the fetus)
- Saliva (if blood is present)



Bloodborne Pathogen Transmission

Skin provides a barrier:

Unbroken skin forms an impervious barrier against bloodborne pathogens. However, infected blood can enter your system through:

- Open sores
- Small cuts or scratches
- Abrasions
- Acne
- Damaged or broken skin such as sunburn or blisters
- Dried and cracked skin

Bloodborne Pathogen Transmission

Precautions to prevent infection:

- Treat all blood or potentially infectious body fluids as if they are contaminated.
- Always wear personal protective equipment (PPE) in exposure situations.
- Replace PPE that is torn or punctured.
- Remove PPE before leaving the work area.
- Properly disinfect or dispose of used PPE.
- Wash hands immediately after removing PPE.

Engineering Controls

These controls reduce employee exposure by either removing the hazard or isolating the worker:

- Sharps disposal containers
- Self-sheathing or retracting needles
- Medical safety devices
- Needles systems
- Sharps with engineered injury protections



Medical safety devices:

- **Needles Systems:** a device that does not use needles for the collection or withdrawal of body fluids or for the administration of medication or fluids.
- **Sharps with Engineered Sharps Injury Protections:** a non-needle sharp or a needle device used for withdrawing body fluids, accessing a vein or artery, or administering medications or other fluids with a built-in safety feature or mechanism that effectively reduces the risk of an exposure incident.

Your program needs to review these devices to determine the safest approach.

Work Practice Controls

These controls reduce the likelihood of exposure by establishing steps to complete job tasks safely:

- Wash hands after removing gloves and as soon as possible after exposure.
- Cover any cuts or abrasions, especially those near hands.
- Do not bend or break sharps.
- Do not touch face or mouth when an exposure is present.
 - This includes eating, drinking or smoking.



Work Practice Controls

Personal hygiene:

- Hand washing is one of the most important (and easiest) practices used to prevent transmission of bloodborne pathogens.
- Wash hands or other exposed skin thoroughly as soon as possible following an exposure incident.
- Use antibacterial soap.
- Don't use harsh or abrasive soap.



Work Practice Controls

Personal protective equipment (PPE):

- Specialized clothing or equipment that's worn by an employee for protection against infectious materials.
- PPE must be properly cleaned, laundered, repaired, and disposed of at no cost to employees.
- PPE must be removed when leaving area.



Work Practice Controls

Examples of PPE:

- Gloves
- Gowns
- Face shields
- Eye protection
- Mouthpieces
- Boots



Work Practice Controls

Housekeeping:

A written schedule must be developed for cleaning and decontamination at the work site based on:

- The location within the facility.
- The type of surface to be cleaned.
- The type of soil present.
- The tasks or procedures being performed.



Housekeeping (continued):

Work surfaces must be decontaminated with an appropriate disinfectant:

- After completion of procedures .
- When surfaces are contaminated.
- At the end of the work shift.



Work Practice Controls

Contaminated clothing:

- Remove clothing that is contaminated with blood as soon as possible.
- Use universal precautions when handling contaminated laundry.
- Place clothing in approved and labeled bags or containers.
- Water soluble bags provide the greatest protection.
 - Bags dissolve in laundry to minimize the handling of contaminated items.
 - Ideal for medical settings and hospitality industry.

"Universal precautions" means to avoid contact with patient's bodily fluids by wearing medical gloves, goggles etc.

Work Practice Controls

Laundry:

- Handle contaminated laundry as little as possible and use PPE.
- Must be bagged or containerized at location where used.
- No sorting or rinsing at location where used.
- Must be placed and transported in labeled or color-coded containers.
- Whenever possible, use water soluble laundry bags to minimize handling laundry.

Regulated Waste

Regulated waste items:

- Any liquid or semi-liquid blood or other potentially infectious materials.
- Contaminated items that could release blood or other potentially infectious materials in a liquid or semi-liquid state if compressed.
- Items with dried blood or other potentially infectious materials.



Regulated Waste

Regulated waste items (continued):

These must be placed in closeable, leak-proof containers built to contain all contents during handling, storing, transporting, or shipping and be appropriately labeled or color-coded.



Biohazard warning labels:

Warning labels must be placed on containers of regulated waste, and other containers used to store, transport, or ship blood or other potentially infectious materials.



Signs and Labels

Required biohazard warning labels (continued):

- On containers of regulated waste.
- On refrigerators and freezers containing blood and other potentially infectious materials.
- On other containers used to store, transport, or ship blood or other potentially infectious materials.
- Red bags or containers may be substituted for labels.

Emergency Response

When conducting first aid or spill clean up, always use universal precautions.

Minimize your exposure by wearing:

- Gloves
- Splash goggles
- Pocket mouth-to-mouth resuscitation masks
- Other barrier devices

Emergency Response

First aid:

When performing first aid, always use a mouth barrier to protect yourself from coming into contact with bodily fluids.



Mouth barriers should have one-way valves to keep fluids from coming up.



Commercially available products can be small enough to fit on a key chain and include latex gloves.

Emergency Response

What to do if an exposure occurs:

- Wash the exposed area thoroughly with soap and running water.
- Use non-abrasive, antibacterial soap.
- Flush splashes to nose, mouth, or skin with water.
- Irrigate eyes with water or saline.
- Report the exposure.
- Seek medical attention.



Emergency Response

Post-exposure follow-up:

- Document routes of exposure and how exposure occurred.
- Record injuries from contaminated sharps in a sharps injury log, if required.
- Obtain consent from the source individual and the exposed employee and test blood as soon as possible after the exposure incident.
- Provide risk counseling and offer post-exposure protective treatment for disease when medically indicated in accordance with current U.S. Public Health Service guidelines.
- Provide written opinion of findings to employer and copy to employee within 15 days of the evaluation.

Training Requirements

Training must be:

- Provided at no cost to employees during working hours.
- Provided at time of initial assignment to a job with occupational exposure and at least annually thereafter.
- Additional training is needed when existing tasks are modified or new tasks are required which affect the worker's occupational exposure.
- Recorded and maintained for three years.



Medical Recordkeeping

Recordkeeping requirements:

- Include employee's name and social security number.
- Include employee's hepatitis B vaccination status.
- Include results of examinations, medical testing, and post-exposure evaluation and follow-up procedures.
- Include health care professional's written opinion.

Medical Recordkeeping

Recordkeeping requirements (continued):

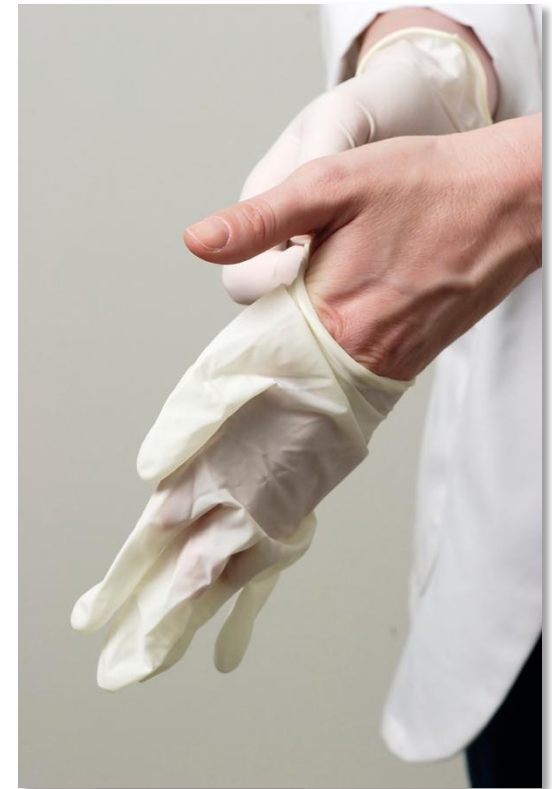
- Include information provided to the health care professional.
- Employee medical records must be kept confidential and not disclosed or reported without the employee's written consent (unless required by law).
- Medical records must be maintained for duration of employment plus 30 years according to OSHA's rule governing access to employee exposure and medical records.

Sharps injury log:

- Employers must maintain a sharps injury log for the recording of injuries from contaminated sharps.
- The log must be maintained in a way that ensures employee privacy and must contain, at a minimum:
 - Type and brand of device involved in the incident.
 - Location of the incident.
 - Description of the incident.

OSHA's bloodborne pathogen standard:

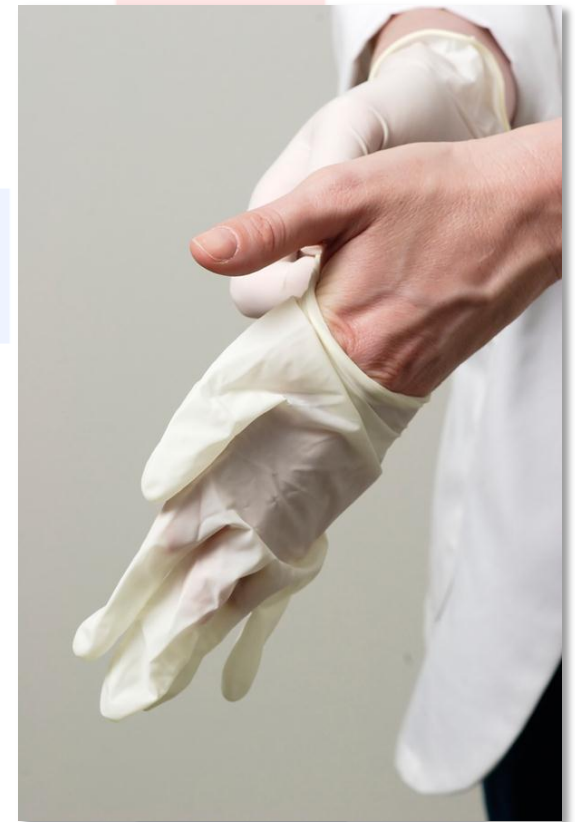
- Prescribes safeguards to protect workers against the health hazards from exposure to blood and other potentially infectious materials, and to reduce their risk from this exposure.
- Implementation of this standard not only will prevent hepatitis B cases, but also will significantly reduce the risk of workers contracting AIDS, hepatitis C, or other bloodborne diseases.



Summary (continued)

Best practices:

- Always know what you are working with.
- Use proper PPE in situations with bloodborne pathogens.
- Report all suspected exposures.
- Don't handle sharps or broken glass with your hands.
- Properly dispose of pathogen waste, PPE, and sharps.



Bloodborne Pathogens Training

This form documents that the training specified above was presented to the listed participants. By signing below, each participant acknowledges receiving this training.

Organization: _____

Trainer: _____ Trainer's Signature: _____

Class Participants:

Name: _____ Signature: _____ Date: _____

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Name: _____ Signature: _____ Date: _____

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Remember to load your completed trainings into the Risk Management Center.