

Bloodborne Pathogens Training Free PDF

Introduction

Although not all employees in every industry are occupationally exposed to bloodborne pathogens, it is still important for everyone to understand the potential dangers of these pathogens and the safe practices required to minimize their risk.

OSHA mandates that all workers at risk of exposure complete a Bloodborne Pathogens Certification course annually.

This PDF does not satisfy the OSHA requirement for training or certification - it is offered as a free resource to assist businesses and organizations in providing information to employees as they see fit.

This PDF is offered by bloodbornecertification.com and is based on materials contained in our OSHA Bloodborne Pathogens Certification course.

What are Bloodborne Pathogens?

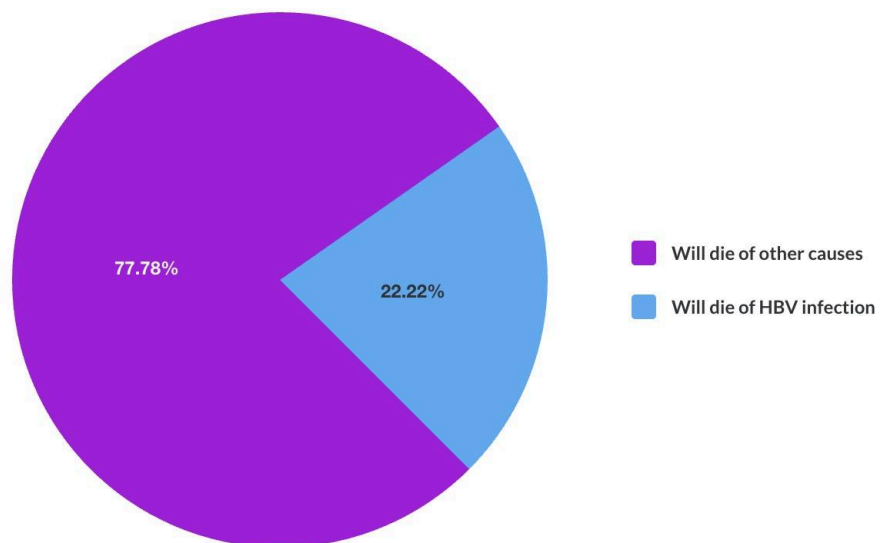
Bloodborne pathogens are pathogenic microorganisms such as viruses or bacteria which are present in blood and body fluids and can cause disease in people.

There are many different bloodborne pathogens such as West Nile Virus, but the Hepatitis B Virus (HBV), Hepatitis C Virus (HCV) and the Human Immunodeficiency Virus (HIV) are the three viruses that pose the greatest concern. These diseases are specifically addressed in the OSHA Bloodborne Pathogen standard.

Hepatitis B Virus (HBV)

"Hepatitis" means "inflammation of the liver." Hepatitis B is a virus that can infect the liver. This inflammation can lead to serious conditions such as chronic liver disease, cancer, or death. More than 5,000 people die annually from HBV-related liver disease.

Mortality Rates of HBV Infected Individuals



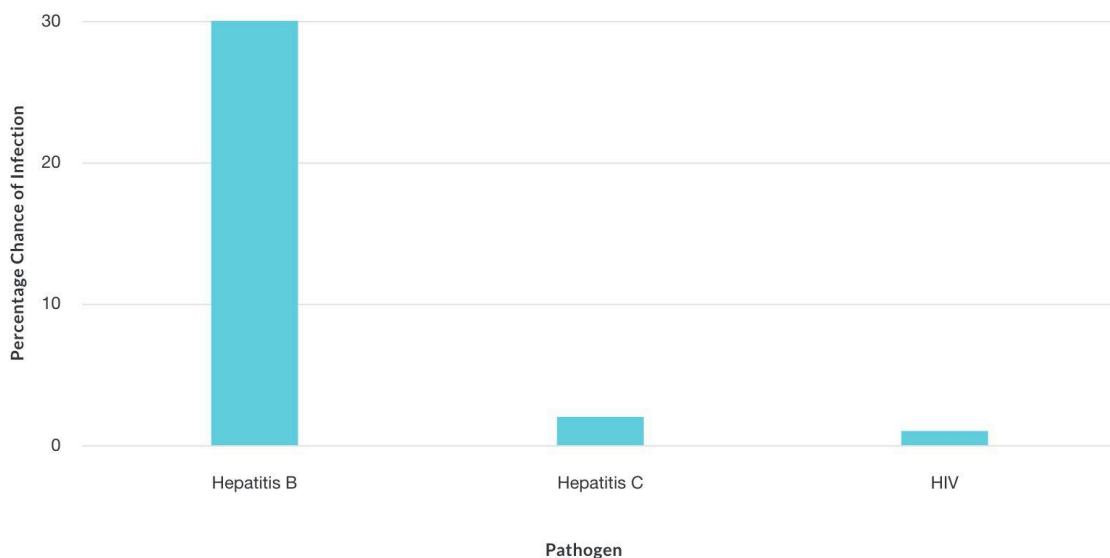
Symptoms of HBV may include:

- ☐ Fatigue
- ☐ abdominal pain
- ☐ loss of appetite
- ☐ nausea or vomiting.

Symptoms of jaundice (a distinct yellowing of the skin and eyes) and dark color urine will often occur as the disease progresses. Half of those infected by HBV show no symptoms. Others may show symptoms as soon as 2 weeks or as long as 6-9 months after infection.

Hepatitis B is the most easily transmissible bloodborne pathogen. It is transmitted primarily through blood to blood contact. The only way to confirm an HBV infection is by blood test. There is no cure or specific treatment for HBV, but fortunately there is a vaccine.

Average Risk of Infection After Exposure for Susceptible Person Following a Single Exposure (Needle Stick or Cut)



Hepatitis C Virus (HCV)

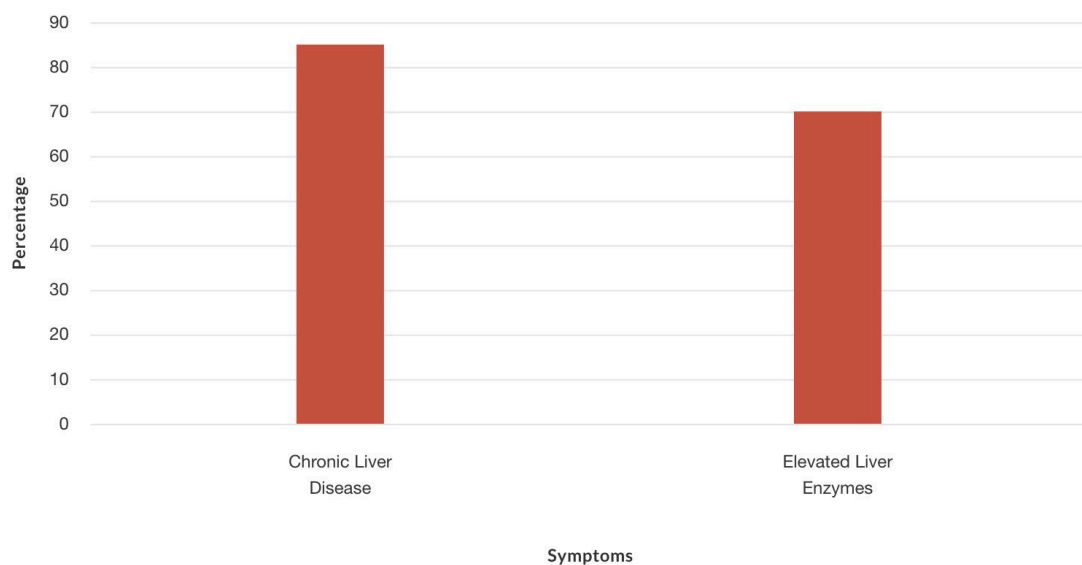
The Hepatitis C Virus (HCV) can cause liver infection. It is estimated that 3.9 million (1.8%) Americans have been infected with HCV. Each year, approximately 10,000 people die from HCV related infections, double the number of mortalities associated with Hepatitis B.

Symptoms are often non-specific, but may include:

- ☐ Jaundice
- ☐ abdominal pain
- ☐ fatigue
- ☐ dark urine
- ☐ loss of appetite or nausea.

Chronic effects include cirrhosis of the liver and liver cancer. HCV is the number one cause of liver transplants in the United States. There is no vaccine for HCV, but there are antiviral drugs available.

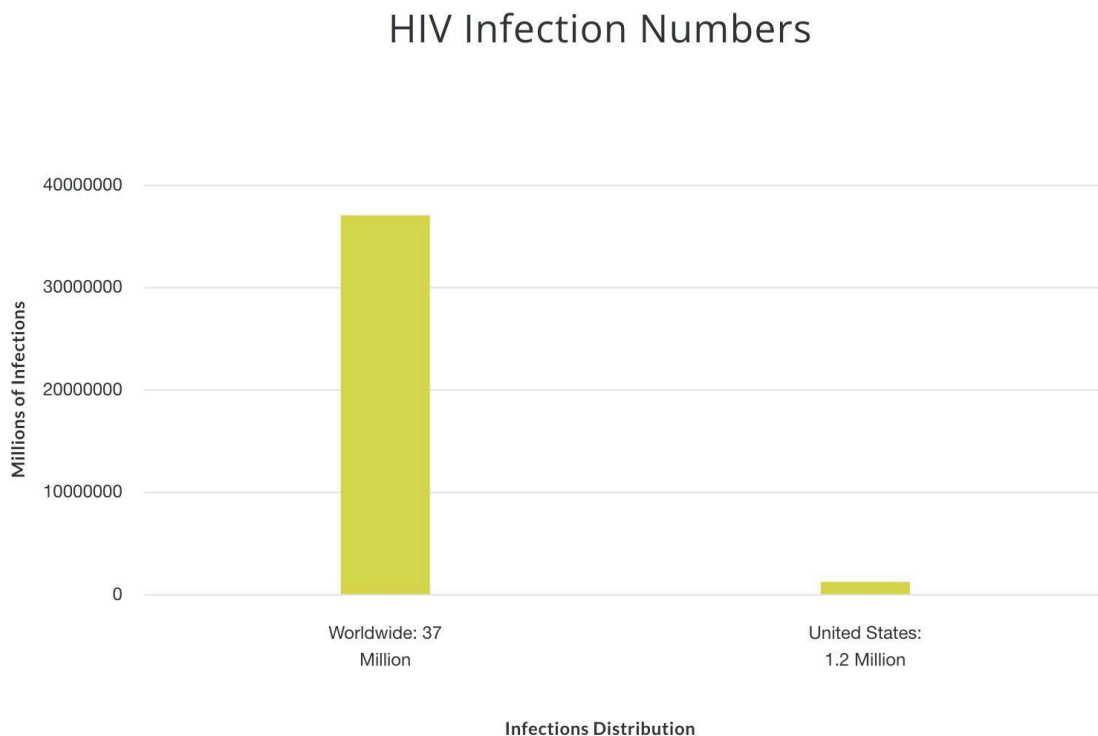
Prevalence of Symptoms in HCV Infected Persons in USA



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Human Immunodeficiency Virus (HIV)

Human Immunodeficiency Virus (HIV) attacks the body's immune system, weakening it so it cannot fight other diseases effectively. Over one million people in the United States are HIV positive. These numbers could be higher, as many people with HIV appear healthy and lead normal lives.



The HIV virus itself does not survive long outside the human body. It is primarily a concern to employees who provide first aid in situations involving human blood. It is estimated that there is only a 0.4% chance of contracting HIV in the workplace environment. However, because it is such a devastating disease, all precautions against exposure should be taken.

Symptoms of HIV infection can vary and occur in three stages:

- **Stage 1:** occurs upon infection with HIV and may last for many years. During this period, the person may show few or no signs of illness
- **Stage 2:** an individual may begin to suffer symptoms of weakness, fever, sore throat, nausea, headaches, diarrhea, weight loss, swollen lymph nodes, and white coating of the tongue. During this stage the body's immune system becomes weakened. The second stage is believed to eventually lead to Acquired Immunodeficiency Syndrome (AIDS).
- **Stage 3:** the body becomes unable to fight life-threatening diseases and infections.

While treatment for it is improving, there is no vaccine for HIV nor a cure for AIDS.



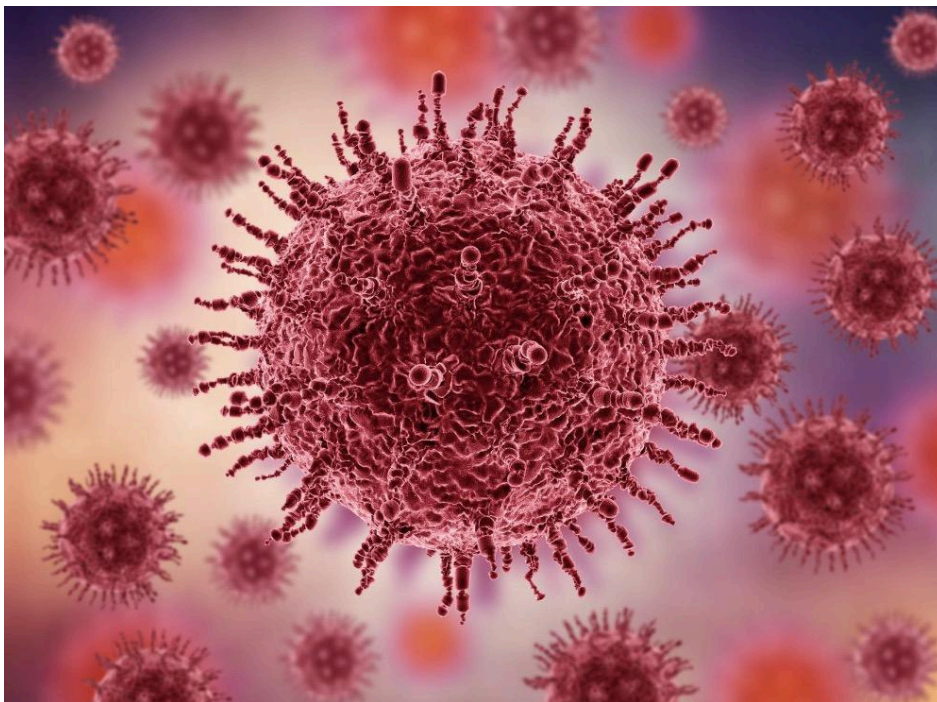
Transmission of Bloodborne Pathogens

To be exposed to a bloodborne pathogen such as Hepatitis B, Hepatitis C or HIV, infected blood or other body fluids must get into your bloodstream. Other body fluids are referred to as *Other Potentially Infectious Materials*, or **OPIM** for short.

The majority of cases are transmitted by:

- Sharing contaminated needles to inject drugs
- through sexual contact with an infected partner
- from infected mother to child before or during childbirth.

Some cases are transmitted through other means. In the workplace, you can be exposed to Hepatitis B, Hepatitis C and HIV by coming in contact with contaminated blood. This can happen when you directly touch contaminated blood while performing first aid or when you touch an object or surface contaminated with blood and then transfer the virus to your mouth, eyes, nose or non-intact skin.



Feces, urine, vomit, nasal secretions, sputum, sweat, tears and saliva are not considered infectious unless they contain visible blood.

They can, however, be the cause of other diseases such as colds.

You **cannot** become infected with these viruses through casual contact such as coughing, sneezing, a kiss on the cheek, a hug, water fountains, or food.

Recognizing and Eliminating Bloodborne Pathogen Exposures

If you come into contact with human blood or OPIM, you may be exposed to HIV, Hepatitis B and Hepatitis C.

Knowing these steps will help you eliminate exposures:

1. **Exposure Control Plan:** Know your exposure control plan. This plan has been designed by your organization to protect employees who must deal with blood or body fluids. It is based on the OSHA standard guidelines for workplace safety.
2. **Universal Precautions:** Follow universal precautions and always be prepared for an emergency. Have Personal Protective Equipment (PPE) with you at all times. Although you may instinctively want to help a co-worker, make sure that you first protect yourself properly.
3. **Follow Clean up and Disinfecting Protocols:** Know how to properly discard bloody materials and disinfect contaminated surfaces. The Hepatitis B virus is able to survive at room temperature on a dry surface for at least a week.
4. **Hepatitis B Vaccination:** If you are not eligible for the Hepatitis B vaccine through your employer (see Vaccine Information), speak with your physician with regards to obtaining the vaccine. The Hepatitis B Vaccine does not protect against Hepatitis A or C.
5. **Hand Washing:** Practice good handwashing techniques. This is the most important defense against the spread of disease.

Some examples of situations where you may be at risk for BBP exposures:

- ☐ First aid due to accidental injuries involving blood
- ☐ athletic injuries involving blood
- ☐ assisting others who use syringes or needles
- ☐ bloody noses
- ☐ assisting with cleaning after a blood or body fluid spill
- ☐ human bites that break the skin
- ☐ performing invasive procedures on another individual.

Engineering Controls, Safe Work Practices & Universal Precautions

Universal Precautions

An approach to infection control used to protect employees from exposure to all human blood and other potentially infectious materials.

Treat all human blood and body fluids as if they are infectious observe universal precautions in all situations when there is a potential for contact with blood or other potentially infectious materials



OSHA legislation requires the application of universal precautions in workplaces where workers handle human blood or OPIM as a first principle of preventing contact with blood or OPIM.

Engineering Controls (Physical or mechanical systems that eliminate hazards at their source)

Shall be used to eliminate or minimize employee exposure continuous monitoring of the controls with improvement as needed.

Example engineering control:

Proper Recapping of Needles

- One-handed motion
- Mechanical Device

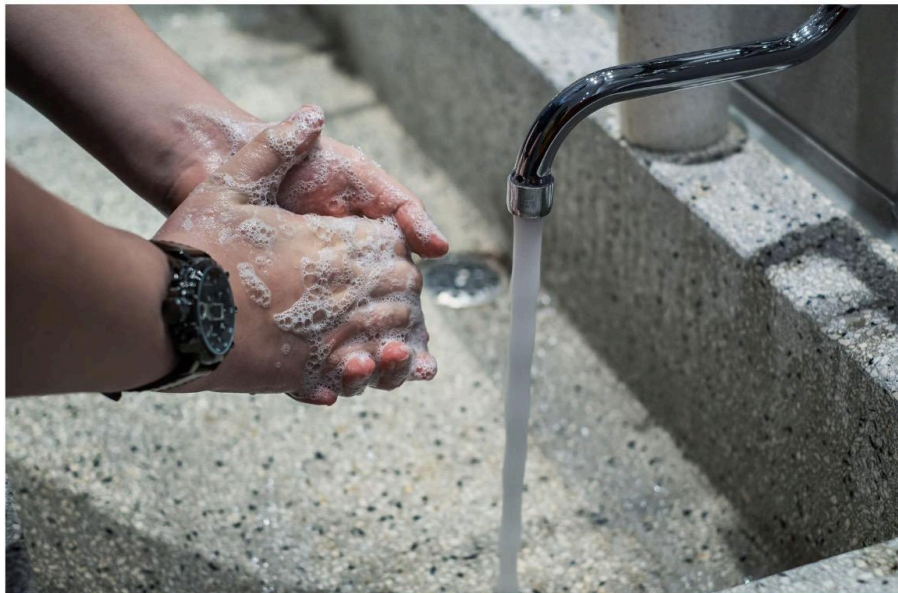
Work Practice Controls (Reduce the potential for exposure by altering how a task is performed)

Examples:

- Handwashing
- Disposal of contaminated sharps
- No eating/drinking in work areas
- Disposal of contaminated materials

Handwashing

Handwashing



- Employers must provide hand washing facilities that are readily accessible to workers.
- When it is not possible to provide a feasible handwashing facility, employers must provide suitable antiseptic hand cleansers in conjunction with paper towels or antiseptic towelettes. Whenever antiseptic hand cleansers or towelettes are used, the hands must be washed with soap and running water as soon as possible afterward.
- Employers must also ensure that workers wash their hands immediately or as soon as feasible after removal of gloves and other personal protective equipment.
- During hand washing, workers must wash their hands, skin area or flush mucous membranes that have come into contact with blood and OPIM. This must be done as soon as feasible after contact with blood or OPIM.

Handwashing Procedure

1. Hands should be placed under running water.
2. Apply soap.
3. Scrub all surfaces of the hands & wrists vigorously (Pay special attention to the areas between fingers).
4. Rinse the hands thoroughly & dry with a paper towel.
5. Turn the faucet off with the paper towel.

Disposal of Contaminated Sharps

- Needles/sharps should not be bent or recapped
- do not break the contaminated needle
- sharps shall be placed immediately in a puncture resistant, leak-proof, properly labeled container (do not overfill container)
- the containers will be provided by the employer
- when container is full and properly sealed, it can be disposed of in regular trash
- Contaminated waste must be properly packaged and labeled.

Prohibited Activities

These activities are prohibited in work areas (e.g. medication rooms, first aid rooms, toileting areas, etc.) where there is a potential for contamination with blood or body fluids.

- ☐ Eating
- ☐ drinking
- ☐ smoking
- ☐ Handling contact lenses
- ☐ Application of cosmetics or lip balm.

Personal Protective Equipment (PPE)

Your employer must provide all necessary equipment to protect you against exposure to potentially contaminated materials. Some examples include:

- Gloves
- gowns/aprons
- face shields
- eye protection
- resuscitation devices.

All personal protective equipment should be:

- ☐ Removed before leaving the workplace
- ☐ disposed of in an appropriately designated area, after removal
- ☐ removed as soon as possible if your clothing becomes saturated with blood or body fluids.

Gloves

- Wear gloves when it is possible that your hands may come into contact with blood or body fluids or if you have cuts, scratches, or other breaks in the skin
- the gloves are single use; do not wash or reuse
- gloves should be removed if they become torn or damaged using proper glove removal technique.



Masks, Eye Protection, Face Shields

Use whenever splashes, sprays, spatters or droplets of blood or other body fluids may contaminate your eyes, nose or mouth.



Gowns and Aprons

Gowns and aprons should be worn when splashes, sprays, spatters, or droplets of blood may contaminate your clothing.



Housekeeping/Environmental Issues

Housekeeping/custodial responsibilities include the major tasks of cleaning and disposal of potentially infectious waste.

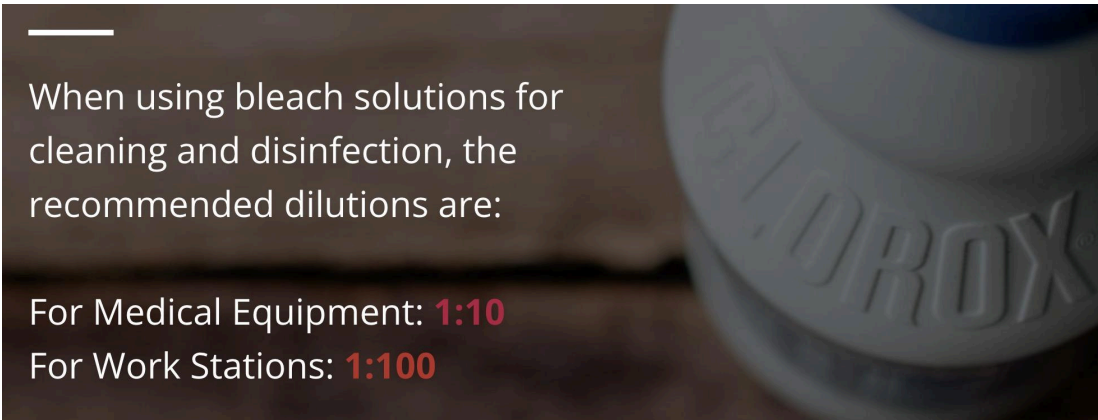
All equipment and work surfaces must be cleaned and decontaminated after a blood exposure or contamination from potentially infectious materials.

To minimize exposures the following housekeeping measures can be implemented:

- ☐ Call for custodial staff (if available) to clean any equipment or surfaces contaminated with blood or body fluids.
- ☐ Broken glass should always be treated as contaminated and never be picked up with unprotected hands.
- ☐ Always use mechanical means to pick up glass such as a broom and dustpan.
- ☐ Never push or compact trash with your hands. Hold it away from you and shake down
- ☐ Contaminated laundry should be placed in a leak proof container.
- ☐ Place items, heavily soiled with blood, in a red biohazard bag.
- ☐ Regular inspection and disinfection of reusable containers.
- ☐ Call for cleanup of areas which have been contaminated or are suspected to be contaminated.

Only EPA approved disinfectants should be used.

The United States Environmental Protection Agency (EPA) has aggregated and updated information from individual disinfectant lists to create a new list called the [EPA-Registered Antimicrobial Products Effective Against Bloodborne Pathogens \(HIV, Hepatitis B, and Hepatitis C\) \[List S\]](#).



When using bleach solutions for cleaning and disinfection, the recommended dilutions are:

For Medical Equipment: **1:10**

For Work Stations: **1:100**

What To Do If An Exposure Occurs

Definitions:

- **Exposure incident:** Coming into contact with blood or other potentially infectious materials via the eyes, mouth, mucous membranes, non-intact skin, or parenterally during the performance of an employee's duties
"Non-intact" skin: includes skin with dermatitis, hangnails, cuts, abrasions, acne, etc.
- **Parenteral:** Piercing mucous membranes or the skin barrier through events such as needle sticks, human bites, cuts, and abrasions.

After an Exposure Event



In the event of an exposure, employees should:

- ☐ Remove contaminated Personal Protective Equipment and place it in a biohazard labeled bag.
- ☐ Wash exposed areas (hands and other skin surfaces) with soap and water. Immediately flush exposed mucous membranes with water and if eyes are exposed, flush with a large volume of water.
- ☐ Immediately report the exposure incident to your immediate supervisor.
- ☐ If there is a blood spill, immediately arrange for clean-up and decontamination with an EFA approved disinfectant.
- ☐ Seek medical care if first aid is needed or if signs of infection, such as redness or swelling occur.
- ☐ Complete an Exposure Incident Forms and return them to your supervisor no more than 24 hours after exposure.
- ☐ Follow procedures for follow-up as outlined in your Exposure Control Plan.



Hepatitis B Vaccination



All occupationally exposed workers must be offered free HBV vaccinations **10 days after being hired or before they begin working with blood and OPIM.**

The Hepatitis B vaccination series will be made available free of charge to all employees who are considered at risk or on a post-exposure basis (an employee who may have had an occupational exposure to blood and/or body fluids).

At Risk Employees

At risk employees perform invasive tasks and procedures on a daily basis. Those tasks and procedures could result in an exposure from splashes with blood or body fluids through mucous membranes or non-intact skin. These tasks require appropriate protective measures for employees who perform them.

Every employee considered at risk of exposure should complete a Hepatitis B Vaccine Acceptance Form or Declination Form when hired.

The Hepatitis B vaccination is available to any employee covered by the standard, even if the employee initially declines the series, but at a later date decides to accept the vaccination.

There are some exclusions, employers are not obligated to offer HBV vaccination to:

- 1 Workers who have already been vaccinated whose antibody status indicates **immunity** against HBV.
- 2 Workers for whom HBV vaccination is contraindicated for **medical reasons**.

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