

INFORMATION ***BULLETIN***

SUBJECT: OSHA Standard
Bloodborne Pathogen Hospital e Tool
HealthCare Wide Hazards Module

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Attached is an article taken from the OSHA Website (Hospital e Tool: HealthCare Wide Hazards Module on Bloodborne Pathogens). It gives a variety of potential hazards and possible solutions for topics such as Post Exposure, Needlestick Injuries, Latex Allergy, HBV, HIV, HCV, and more.



- HealthCare Wide Hazards Module -

Bloodborne Pathogens

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Common safety and health topics:

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Bloodborne Pathogens Standard

Definitions for bloodborne pathogens, other potentially infectious materials (OPIM), and occupational exposure are found in 1910.1030(b).

Potential Hazard

Possible employee exposure to blood and OPIM because of an ineffective Exposure Control Plan (ECP).

Possible Solutions

Provide an effective ECP and training as required by the Bloodborne Pathogens Standard [[1910.1030](#)].

- As mandated by the [Needlestick Safety and Prevention Act](#), OSHA has *revised* its Bloodborne Pathogens Standard 1910.1030, effective date April 18, 2001. The *Revised* Exposure Control Plan requirements make clear that employers must implement the safer medical devices that are appropriate, commercially available, and effective [[1910.1030\(c\)\(1\)\(iv\)\(A\)](#)], and get input from those

responsible for direct patient care in [(c)(1)(v)]. The updated standard also requires employers to maintain a log of injuries from contaminated sharps [1910.1030(h)(5)].

- Identify employees who have occupational exposure to blood or OPIM [1910.1030(b)], and then establish and implement a written Exposure Control Plan (ECP), designed to eliminate or minimize employee exposure [1910.1030(c)(1)].

Each employer must:

- Identify employees who have occupational exposure to blood or OPIM [1910.1030(b)], and then establish and implement a written Exposure Control Plan (ECP), designed to eliminate or minimize employee exposure [1910.1030(c)(1)].
- The ECP must be made available to all employees [1910.1030(c)(1)(iii)] and be reviewed and updated at least yearly [1910.1030(c)(1)(iv)].
- Ensure that employees with occupational exposure to bloodborne pathogens receive appropriate training at no cost to employees, and during working hours [1910.1030(g)(2)(i)].
 - Training requirements are listed in [1910.1030(g)(2)(vii)].

The *revised* Exposure Control Plan requirements include:

- Employers must implement the safer medical devices that are appropriate, commercially available, and effective [1910.1030(c)(1)(iv)(A)] and document consideration and implementation of safer medical devices annually [(c)(1)(iv)(B)].
 - Employers must get input for these devices from those responsible for direct patient care [(c)(1)(v)]. This input must be documented.

Example Exposure Control Plans:

- A Model Exposure Control Plan is provided to assist employers in developing their own plans [OSHA Directive [CPL 2-2. 69](#) (2001, November 27)].



For additional information, see **HealthCare Wide Hazards - [Needlesticks](#)**.

Additional Information:

- [Bloodborne Pathogens](#), Technical Links Page.

Post Exposure Follow-up

Potential Hazard

No post exposure follow-up made available after a needlestick/sharps injury, to help document injury or offer medically indicated post-exposure prophylaxis.

Possible Solutions

- A Needlestick Prevention Program in place to deal with needlesticks or other sharps injuries:

The Bloodborne Pathogens Standard requires immediate follow-up of employees after a needlestick [1910.1030(f)(3)]. It is recommended that such follow-up include identifying injury patterns and accident analysis to determine if other training, procedures, or safer needle devices should be used to prevent future accidents. The updated standard requires employers to maintain a log of injuries from contaminated sharps [1910.1030(h)(5)].

- Post-exposure Evaluation and Follow-up also includes:
 - A confidential medical exam [1910.1030(f)(3)].
 - Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred [1910.1030(f)(3)(ii)(A)] and making the results of the source individual's testing usually after consent, available to the exposed employee [1910.1030(f)(3)(ii)(C)].
 - Administration of post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service [1910.1030(f)(3)(iv)].
 - [MMWR Recommendations and Reports, Volume 50, Number RR-11 Updated U.S. Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis](#) (PDF format, 329 KB) June 29, 2001, Most recent guidelines.
- [NIOSH](#) recommends if you experienced a needlestick or other sharps injury or were exposed to the blood or other body fluid of a patient during the course of your work, immediately follow these steps:
 - Wash needlesticks and cuts with soap and water
 - Flush splashes to the nose, mouth, or skin with water
 - Irrigate eyes with clean water, saline, or sterile irritants
 - Report the incident to your supervisor
 - Immediately seek medical treatment
 - If you have questions about appropriate medical treatment for occupational exposures to blood, 24 hour assistance is available from the [Clinicians' Post Exposure Prophylaxis Hotline \(PEpline\)](#) at (1-888-448-4911).

Recordkeeping for Bloodborne Pathogens

Potential Hazard

Lack of information necessary to adequately implement bloodborne pathogens program and address bloodborne pathogen hazards.

Possible Solutions

The Bloodborne Pathogens Standard [[1910.1030](#)], requires both medical

and training records be maintained [1910.1020].

Medical Records must be preserved and maintained for each employee with occupational exposure to bloodborne pathogens [1910.1030(h)(1)].

- For at least the duration of employment plus 30 years, and must be kept confidential (not disclosed without written permission of employee, except by law) and separate from other personnel records and must also include:
 - The employee's name and social security number, hepatitis B vaccination status, including the dates of vaccination and medical records related to the employee's ability to receive vaccinations.
- If an exposure incident occurs, reports are added to the medical record to document the incident, including testing results following the incident, follow-up procedures, and the written opinion of the health care professional.

Training Records: Employers must establish and maintain a training record for all exposed employees for 3 years, from the date the training occurred which includes [1910.1030(h)(2)]:

- The names and job titles of all persons attending the training sessions, the dates, and content of the training sessions, and the trainer's name and qualifications.
- If the employer ceases to do business:
 - Training and medical records must be transferred to the next employer or successor employer.
 - If there is no successor employer, the employer must notify the Director of the National Institute for Occupational Safety and Health (NIOSH) for specific directions for the records at least 3 months prior to intended disposal.
- Both medical and training records must be available to [1910.1030(h)(3)(ii)]:
 - Director of NIOSH.
 - Assistant Secretary of Labor for Occupational Safety and Health.
 - Employees or employee representatives (someone having written consent of the employee)

Comply with OSHA [revised Bloodborne Pathogens Standard](#):

- Employers must maintain a log of injuries from contaminated sharps [1910.1030(h)(5)] for each injury including:
 - Type and brand of device involved [(h)(5)(i)(A)].
 - Department or work area of occurrence [(h)(5)(i)(B)].
 - Explanation of how the incident occurred [(h)(5)(i)(C)].
- Does not apply to employer not required to maintain injury/illness log under 1904 [(h)(5)(ii)].

Additional Information

- [Recordkeeping](#) Technical Links Page.

Needlestick Injuries

An estimated 800,000 needlestick injuries occur each year. Nursing staff are most frequently injured. [EPINET](#) Data show needlestick injuries occur most frequently in patient rooms.

Needlestick injuries account for up to 80 percent of accidental exposures to blood. (OSHA JSHQ, 1998).

Potential Hazard

Exposure to blood and OPIM from needlestick injuries due to:

- [Unsafe needle devices.](#)
- [Improper handling and disposal of needles.](#)

Possible Solutions

- [Use safer needle devices and needleless devices to decrease needlestick or other sharps exposures.](#)
- [Proper handling and disposal of needles and other sharps according to the Bloodborne Pathogens Standard can help prevent needlestick injuries.](#)



For additional information, see **HealthCare Wide Hazards - [Needlesticks](#)**.

Other Sharps

"Contaminated Sharps" means any contaminated object that can penetrate the skin including, but not limited to, needles, scalpels, broken glass, broken capillary tubes, and exposed ends of dental wires [[1910.1030\(b\)](#)].

Potential Hazard

Exposure to blood and OPIM through *other sharps*:

- [Glass Capillary Tubes](#) that break when used may result in a penetrating wound and expose workers to blood and OPIM.
- [I.V. Connectors](#) that use **needle** systems increase the risk of exposure to bloodborne pathogens through needlestick injuries.
- [Disposable razors](#) that could be contaminated with blood should be considered "contaminated sharps" and disposed of properly in appropriate [sharps containers](#).

Possible Solutions

Implement engineering and work practice controls to help prevent exposures.



For additional information, see **HealthCare Wide Hazards** - [Needlesticks](#).

Universal Precautions

An approach to infection control which treats all human blood and other potentially infectious materials as if they were infectious for HIV and HBV or other bloodborne pathogens [1910.1030(b)].

Potential Hazard

Exposure to bloodborne pathogens because employees are not using Universal Precautions.

Possible Solutions

Implement Universal Precautions according to the Bloodborne Pathogens Standard [1910.1030(d)(1)].

- Treat all blood and other potentially infectious materials with appropriate precautions such as:
 - Use gloves, masks, and gowns if blood or OPIM exposure is anticipated.
 - Use engineering and work practice controls to limit exposure.

There are other concepts in infection control that are acceptable alternatives to universal precautions, such as Body Substance Isolation (BSI) and Standard Precautions (OSHA [CPL 2-2.69](#)):

- These methods define all body fluids and substances as infectious and incorporate not only the fluid and materials covered by the Bloodborne Pathogens Standard, but expand coverage to include all body fluids and substances.



For additional information, see **HealthCare Wide Hazards** - [Universal Precautions](#).

Personal Protective Equipment (PPE)

Potential Hazard

Exposure to blood and OPIM due to an ineffective PPE program.

Possible Solutions

- Appropriate Use of PPE: Personal Protective Equipment (PPE) is required by the Bloodborne Pathogens Standard (if exposure to blood and OPIM is anticipated and where occupational exposure remains, after institution of engineering and work practice controls 1910.1030(d)(2)(i).
- Gloves must be worn when hand contact with blood, mucous membranes, OPIM, or non-intact skin is anticipated, and when performing vascular access procedures, or when handling contaminated items or surfaces [1910.1030(d)(3)(ix)].
 - Employers must ensure that employees wash their hands after contact with blood or OPIM [1910.1030(d)(2)(vi)].
- [Employers must provide readily accessible hand washing facilities, \[1910.1030\(d\)\(2\)\(iii\)\]](#). Employers must ensure that employees wash hands and any other skin with soap and water or flush mucous membranes with water as soon as feasible after contact with blood or other potentially infectious materials (OPIM) [1910.1030(d)(2)(vi)].
- [Disposal of PPE](#) Protective clothing must be removed before leaving the room; [1910.1030(d)(3)(viii)].

Latex Allergy

Potential Hazard

Developing latex sensitivity or latex allergy from exposure to latex in products like latex gloves.

Possible Solutions

- Employers must provide appropriate gloves when exposure to blood or other potentially infectious materials (OPIM) exists [1910.1030 Bloodborne Pathogens Standard].
 - Alternatives shall be readily accessible to those employees who are allergic to the gloves normally provided [1910.1030(d)(iii)].



For additional information, see **HealthCare Wide Hazards - [Latex Allergy](#)**.

Bloodborne Illnesses - Hepatitis B Virus

Hepatitis is an inflammation of the liver that can lead to liver damage and/or death. The CDC estimates 800 health care workers became infected with HBV in 1995. This figure represents a 95% decline in new infections from the 1983 figures. The decline is largely due to the immunization of workers with the Hepatitis B vaccine, and

compliance with other provisions of OSHA's Bloodborne Pathogens Standard.

Potential Hazard

Exposure to potentially fatal bloodborne illnesses such as Hepatitis B Virus (HBV).

- Hepatitis is much more transmissible than HIV.
- Risk of infection from a single needlestick is 6%-30% (CDC 1997).
- 50% of the people with HBV infection are unaware that they have the virus.
- The CDC states that HBV can survive for at least one week in dried blood on environmental surfaces or contaminated needles and instruments. For additional information see [Contaminated Work Environments](#).

Possible Solutions

- Prevent the exposure in the first place by implementing an effective [Exposure Control Plan](#) as required by the Bloodborne Pathogens Standard [1910.1030(c)(1)].
- Employers must offer to all employees who have occupational exposure to blood or OPIM, under the [supervision of a licensed physician](#) the hepatitis b vaccination [1910.1030(f)(2)]:
 - Except as provided in 1910.1030(f)(2)(i).
 - At no cost to employee, at a reasonable time and place [1910.1030(f)(2)(i)].
 - After the employee has received the required training [1910.1030(f)(1)].
 - Within 10 working days of initial assignment.
 - Those declining the hepatitis b vaccine must sign a declination statement [1910.1030 Appendix A]. A [sample declination form](#) is available.
 - OSHA provides the following non-mandatory sample form: [Written Opinion for Hepatitis B Vaccination](#).
- Health care workers who have ongoing contact with patients or blood and are at ongoing risk for injuries with sharp instruments or needlesticks must be offered testing for antibody to hepatitis B surface antigen one to two months after the completion of the three-dose vaccination series.
 - Employees who do not respond to the primary vaccination series must be offered a second three-dose vaccine series and retesting. Non-responders must be offered medical evaluation [1910.1030(f)(1)(ii)(D)].
- Following a report of an exposure incident the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up [1910.1030(f)(3)].
- If a worker is exposed to HBV, timely post-exposure follow-up with hepatitis b immune globulin and initiation of hepatitis b vaccine which must be offered [1910.1030(f)(1)(ii)(D)], are more than 90% effective in preventing HBV infection.
- A health care professional's written opinion is required after an exposure

incident [1910.1030(f)(5)].

- OSHA provides the following non-mandatory sample form: [Written Opinion for Post-Exposure Evaluation](#).
- The updated standard also requires employers to maintain a log of injuries from contaminated sharps [1910.1030(h)].

Additional Information

- [Updated US Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis](#). CDC (2001, June 29). Morbidity and Mortality Weekly Report (MMWR) 50(RR11);1-42. The latest CDC recommendations.
- [Issues in Healthcare Settings: Bloodborne Pathogens](#). CDC, Division of Healthcare Quality Promotion (2001).
- [Viral Hepatitis](#): CDC site for Hepatitis.
- [Immunization of Health Care workers](#). CDC, Recommendations of the Advisory Committee on Immunization Practices (ACIP) and the Hospital Infection Control Practices Advisory Committee (HICPAC) (1997, December 26), 46(RR-18);1-42.
- [Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens Standard](#). OSHA Directive, CPL 2-2.69 (2001, November 27).

Bloodborne Illnesses - Human Immunodeficiency Virus (HIV)

HIV infection has been reported following occupational exposures to HIV-infected blood through needlesticks or cuts; splashes in the eyes, nose, or mouth; and skin contact. Most often, however, infection occurs from needlestick injury or cuts.

Potential Hazard

Exposure to potentially fatal bloodborne illnesses such as HIV.

- Risk of HIV infection after needlestick is 1 in 3000 or 0.3%.
- The CDC documented 55 cases and 136 possible cases of occupational HIV transmission to U.S. health care workers between 1985 and 1999.

Possible Solutions

- Prevent the exposure by implementing an effective [Exposure Control Plan](#) as required by the Bloodborne Pathogens Standard [1910.1030(c)(1)].
- Under certain circumstances post-exposure prophylaxis for HIV must be provided to health care workers who have an exposure incident, as defined in 1910.1030(b).
 - Limited data suggests that such prophylaxis may considerably reduce the chance of becoming infected with HIV. However, the drugs used for prophylaxis have many adverse side effects.
 - No vaccine currently exists to prevent HIV infection, and no treatment exists to cure it.
- Employees who have an incident must be offered a confidential medical evaluation and follow-up [1910.1030(f)(3)].
 - A health care professional's written opinion is required after an exposure

incident [1910.1030(f)(5)(ii)].

- The following non-mandatory sample form is available: [Written Opinion for Post-Exposure Evaluation](#).
- The updated standard also requires employers to [maintain a log of injuries](#) from contaminated sharps [1910.1030(h)(5)].

Additional Information

- [Updated US Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis](#). CDC (2001, June 29). Morbidity and Mortality Weekly Report (MMWR) 50(RR11);1-42. The latest CDC recommendations.
- [Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens Standard](#). OSHA Directive, CPL 2-2.69 (2001, November 27).

Bloodborne Illnesses - Hepatitis C Virus (HCV)

HCV infection is the most common chronic bloodborne infection in the United States, affecting approximately 4 million people. Hepatitis C infection is caused most commonly by needlestick injuries. HCV infection often occurs with no symptoms, but chronic infection develops in 75% to 85% of patients, with 70% developing active liver disease (CDC 1998).

Potential Hazard

Exposure to potentially fatal bloodborne illnesses such as Hepatitis C Virus (HCV), which is:

- A major cause of chronic liver disease.
- The leading reason for liver transplants in the United States in 1997 (CDC).

Possible Solutions

- Prevent the exposure in the first place by implementing an effective [Exposure Control Plan](#) as required by the Bloodborne Pathogens Standard [1910.1030(c)(1)].
- Employees who have an exposure incident shall be offered a confidential medical evaluation and follow-up [1910.1030(f)(3)].
- A health care professional's written opinion is required after an exposure incident [1910.1030(f)(5)].
 - The following non-mandatory sample form is available: [Written Opinion for Post-Exposure Evaluation](#).
- No vaccine is available for hepatitis C. Immunoglobulin or antiviral therapy is not recommended and no effective post-exposure prophylaxis is known at this time (CDC 1998).

Additional Information

- [Recommendations for Prevention and Control of Hepatitis C Virus \(HCV\) Infection and HCV-Related Chronic Disease](#). CDC Vol. 47, No. RR-19;1-39 (1998, October 16).

- [Hepatitis C](#): What Clinicians and other Health Professional Need to Know. CDC, (2001).
- [Viral Hepatitis C](#). CDC site for Hepatitis C.
- [Updated US Public Health Service Guidelines for the Management of Occupational Exposures to HBV, HCV, and HIV and Recommendations for Postexposure Prophylaxis](#). CDC (2001, June 29). Morbidity and Mortality Weekly Report (MMWR) 50(RR11);1-42. The latest CDC recommendations.
- [Issues in Healthcare Settings: Bloodborne Pathogens](#). CDC, Division of Healthcare Quality Promotion (2001).
- [Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens Standard](#). OSHA Directive, CPL 2-2.69 (2001, November 27).

Labeling and Signs

Potential Hazard

Exposure to bloodborne pathogens due to improper labeling of potential hazards.

- Disposal of contaminated I.V. tubing into a biohazardous waste container.
- Biohazard label on regulated waste containers.
- Individual units of blood, for transfusion.

Possible Solutions

Implement labeling and signs required by the Bloodborne Pathogens Standard, such as:

- **Biohazardous Waste Container:** Regulated waste, such as I.V. tubing used to administer blood, contaminated PPE, and needles etc., must be disposed of into appropriately labeled biohazardous waste containers [1910.1030(g)(1)(i)(A)].
- **Biohazard Label:** Containers that contain **regulated waste**, (contaminated PPE, needles, etc.), must bear the **biohazard symbol**, in accordance with 1910.1030(g)(1)(i)(A).
 - These labels shall be fluorescent orange or orange-red, with lettering and symbols in a contrasting color [1910.1030(g)(1)(i)(C)].
 - **Red bags or red containers** may be substituted for labels [1910.1030(g)(1)(i)(E)].
- **Exception for Blood Products:** Individual containers of blood, blood components or products that are labeled as to their contents and have been released for transfusion or other clinical use need not be labeled as hazardous [1910.1030(g)(1)(i)(F)].
 - Individual containers of blood or OPIM need not be labeled if placed in a labeled container for storage, transport, shipment or disposal [1910.1030(g)(1)(i)(G)].