Occupational Hazards in Home Health Care

Blood Borne Pathogens

Healthcare personnel are at risk for occupational exposure to bloodborne pathogens, including hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV). Exposures occur through needlesticks or cuts from other sharp instruments contaminated with an infected patient's blood or through contact of the eye, nose, mouth, or skin with a patient's blood.

Common safety and health topics

• **Exposure Control Plan** • **Post Exposure Follow-up** • **Recordkeeping for Bloodborne Pathogens** • **Needle Stick Injuries** • **Other Sharps**	• **Universal Precautions** • **Personal Protective Equipment** • **Latex Allergy** • **HBV, HIV, and HCV**

This tool is used to help develop a comprehensive health and safety program. Within this tool are links that will lead to resources which will require internet connectivity for you to view them. The Care West Team has captured key elements in which we believe are pertinent to developing a successful health and safety program.

Blood Borne Pathogens Standard

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.

- As mandated by the Needle Stick 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, 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.

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

Each employer must:

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

- The ECP must be made available to all employees and be reviewed and updated at least yearly.

- Ensure that employees with occupational exposure to bloodborne pathogens receive appropriate training at no cost to employees, and during working hours.

    - Training requirements are listed in.

The revised Exposure Control Plan requirements include:

- Employers must implement the safer medical devices that are appropriate, commercially available, and effective and document consideration and implementation of safer medical devices annually.

    - Employers must get input for these devices from those responsible for direct patient care. This input must be documented.

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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 - Needlesticks.

Additional Information:

- l Bloodborne Pathogens, Safety and Health Topics Page.

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Post Exposure Follow-up

Potential Hazard:

No post exposure follow-up made available after a needle stick/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. 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.

  - Post-exposure Evaluation and Follow-up also includes:
    - A confidential medical exam.
    - Documentation of the route(s) of exposure, and the circumstances under which the exposure incident occurred. Testing of the source individual's blood and making the results of the source individual's testing usually after consent, available to the exposed employee.
    - Administration of post-exposure prophylaxis, when medically indicated, as recommended by the U.S. Public Health Service.
      - 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).

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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, requires both medical and training records be maintained.

Medical Records must be preserved and maintained for each employee with occupational exposure to bloodborne pathogens.

- 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:

- 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:
        - Director of NIOSH.
        - Assistant Secretary of Labor for Occupational Safety and Health.
        - Employees or employee representatives (someone having written consent of the employee)

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Comply with OSHA revised Bloodborne Pathogens Standard:

- Employers must maintain a log of injuries from contaminated sharps for each injury including:
  - Type and brand of device involved.
  - Department or work area of occurrence.
  - Explanation of how the incident occurred.
- Does not apply to employer not required to maintain injury/illness log under 1904.

Additional Information:

- Recordkeeping Safety and Health Topics Page.

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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.

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.

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 - Needlesticks.

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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.

Potential Hazard

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

Possible Solutions

Implement Universal Precautions according to the Bloodborne Pathogens Standard.

- 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 - Universal Precautions.

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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.
- 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.
- Employers must ensure that employees wash their hands after contact with blood or OPIM.
- Employers must provide readily accessible hand washing facilities. 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.
- Disposal of PPE Protective clothing must be removed before leaving the room, and disposed of in an appropriately designated area or container for storage, washing, decontamination or disposal.

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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.

For additional information, see - Latex Allergy.

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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.
- 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:
    - Except as provided in 1910.1030(f)(2)(i).
    - At no cost to employee, at a reasonable time and place.
    - After the employee has received the required training.
    - 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.

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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.
- Following a report of an exposure incident the employer shall make immediately available to the exposed employee a confidential medical evaluation and follow-up.
- 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, are more than 90% effective in preventing HBV infection.
- A health care professional's written opinion is required after an exposure incident.
- 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.

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). l Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards. OSHA Publication 3186 (2003), 521 KB PDF, 29 pages.

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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.
    - A health care professional's written opinion is required after an exposure incident.
        - 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.

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).
- Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards. OSHA Publication 3186 (2003), 521 KB PDF, 29 pages.

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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.
- A health care professional's written opinion is required after an exposure incident.
- 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 postexposure 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 Post-exposure 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).
- Model Plans and Programs for the OSHA Bloodborne Pathogens and Hazard Communications Standards. OSHA Publication 3186 (2003), 521 KB PDF, 29 pages.

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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.
    - 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.
        - Red bags or red containers may be substituted for labels.
- 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.
    - Individual containers of blood or OPIM need not be labeled if placed in a labeled container for storage, transport, shipment or disposal.

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Needlesticks: Bloodborne Pathogens

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

Potential Hazard

Exposure to blood and OPIM from contaminated sharps injuries.

Possible Solutions

Follow the requirements of the Bloodborne Pathogens Standard and implement engineering and work practice controls to minimize exposure to blood and bloodborne pathogens.

- Engineering and Work Practice Controls must be the primary means used to eliminate or minimize exposure to bloodborne pathogens. Where engineering controls will reduce employee exposure either by removing, eliminating, or isolating the hazard, they must be used, and changes to the Exposure Control Plan (ECP) must include these engineering controls [1910.1030(c)(1)(iv), 1910.1030(d)(2)(i), OSHA Directive CPL 2-2.69.
    - Engineering Controls are measures (e.g., sharps disposal containers, self-sheathing needles, safer medical devices, such as sharps injury protections and needleless systems) that isolate or remove the bloodborne pathogens hazard from the workplace [1910.1030(b)].
        - NOTE: The exposure control plan must document consideration and implementation of appropriate commercially available and effective engineering controls designed to eliminate or minimize exposure [OSHA Directive OSHA Directive CPL 2-2.69], and revised Standard Exposure Control Plan [1910.1030(c)(1)(iv)(B)].
        - Work Practice Controls are measures that reduce the likelihood of exposure by altering the manner in which a task is performed (e.g., prohibiting recapping of needles by a two-handed technique).

- The revised Bloodborne Pathogens and NeedleStick Prevention Standard requirements (effective date April 18, 2001) include:
    - Employers must implement the safer medical devices that are appropriate, commercially available, and effective [1910.1030(c)(1)(iv)(B)] and document consideration and implementation of safer medical devices annually.
        - Employers must get input for these devices from those responsible for direct patient care in [1910.1030(c)(1)(v)]. This input must be documented.
        - Employers must train employees to use new devices and/or procedures and document training in the Exposure Control Plan.
    - Employers must maintain a log of injuries from contaminated sharps 1910.1030(h)(5)(i).
- The new Record keeping Standard 1904.8 also requires needlestick injuries to be recorded on the OSHA 300 Log. This includes all work related needlestick injuries and cuts from sharp objects that are contaminated with another person's blood or OPIM.
- If this recorded employee injury is later diagnosed with an infectious bloodborne disease the OSHA 300 log must be updated.

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Other Bloodborne Pathogens Standard requirements include:

- Compliance with Universal Precautions (an infection control principle that treats all human blood and OPIM as infectious) [1910.1030(d)(1)].

- Personal Protective Equipment (PPE). Engineering and work practice controls shall be used to eliminate or minimize employee exposure. Where occupational exposure remains after institution of these controls, PPE shall also be used [1910.1030(d)(2)(i)].

- Worker training in appropriate engineering controls and work practices, to eliminate or minimize worker exposure. [1910.1030(g)(2)].

- Proper handling and containerization of sharps.

- Post-exposure evaluation and follow-up, including post-exposure prophylaxis when appropriate [1910.1030(f) (3)].

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Needlesticks: Other Sharps Injury

"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.

Potential Hazard

Exposure to blood and other potentially infectious materials (OPIM), from contaminated sharps for example:

- Glass Capillary Tubes that may break when used and if handled incorrectly may result in a penetrating wound of employee.
- Used Disposable Razors that could be contaminated with blood.
- I.V. Connector Systems that use needles to connect I.V. setups.

Possible Solutions

Follow the requirements of the Bloodborne Pathogens Standard 1910.1030 and implement engineering and work practice controls to help prevent needlesticks or other sharps exposures.

- Glass Capillary Tubes:
  - Do not pick up broken glassware, such as capillary tubes directly with the hands.
  - Dispose of regulated wastes including capillary tubes properly.
  - Wear gloves when among other things, handling or touching contaminated items or surfaces, such as capillary tubes.
  - In their joint document (Glass Capillary Tubes: Joint Safety Advisory About Potential Risks (1999, February)), OSHA, FDA and NIOSH warn health care workers about the hazards from breakage of glass capillary tubes and recommend using:
    - Capillary tubes that are not made of glass.
    - Glass capillary tubes wrapped in puncture-resistant film.
    - Products that use a method of sealing that does not require manually pushing one end of the tube into putty to form a plug.
- Used Disposable Razors should be considered contaminated waste and disposed of properly in appropriate sharps containers.
- I.V. connector systems: Use needleless connector systems with I.V. setups to minimize occupational exposure to needles and bloodborne pathogens. Avoid using needles where safe and effective alternatives are available.

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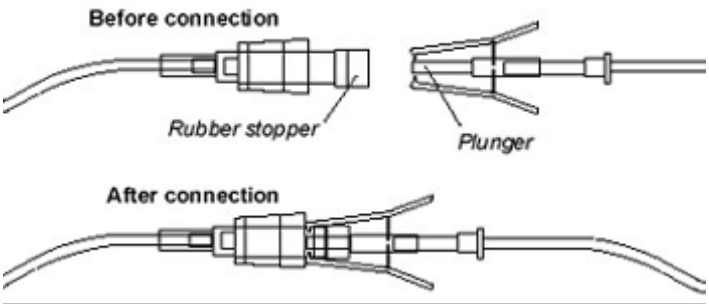

(Figure 1) Needleless I.V. Connector

The FDA urges using needleless systems, or recessed needle systems to reduce the risk of needlestick injuries.

These connectors use devices other than needles to connect one I.V. to another. This example shows the plunger-type system.

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Contaminated Work Environments

Potential Hazard

Exposure of housekeeping staff to blood or Other Potentially Infectious Materials (OPIM) through contaminated work environments. OPIM is defined in 1901.1030(b).

Possible Solutions

OSHA requires:

Clean and sanitary work environments to prevent contact with blood or OPIM. Bloodborne Pathogens Standard.

The employer must:

- Determine and implement an appropriate written schedule for cleaning and methods of decontamination.
- This written schedule must be based on the:
    - Location within the facility.
    - Type of surfaces to be cleaned.
    - Type of soil present.
    - The tasks or procedures to be performed in the area.

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Needlestick Injuries

In an average hospital, workers incurred approximately 30 needlestick injuries for 100 beds per year [EPINET 1996].

Potential Hazard

Exposure to blood and other potentially infectious materials (OPIM) because of:

- 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. See Safer Needle Devices Section.

- Properly handle and dispose of needles and other sharps according to the Bloodborne Pathogens Standard.

    - Handling Needles/Sharps:

        - Do not bend, recap, or remove contaminated needles and other sharps unless such an act is required by a specific procedure or has no feasible alternative.

        - Do not shear or break contaminated sharps. (OSHA defines contaminated as the presence or the reasonably anticipated presence of blood or other potentially infectious materials on an item or surface).

    Containerization:

        - Have needle containers available near areas where needles may be found.

        - Discard contaminated sharps immediately or as soon as feasible into appropriate containers.

	• Appropriate containers must be: ○ Closable, puncture-resistant, and leak-proof on sides and bottom. ○ Accessible, maintained upright, and not allowed to overfill. ○ Labeled or color coded according to 1910.1030(g)(1)(i) ○ Colored red or labeled with the biohazard symbol. ○ Labeled in fluorescent orange or orange-red, with lettering and symbols in a contrasting color. Red bags or containers may be substituted for labels.

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Other Sharps Injury

"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),] Definitions.

Potential Hazard

Exposure to blood and other potentially infectious materials (OPIM), from contaminated sharps for example:

- Glass Capillary Tubes that may break when used and if handled incorrectly may result in a penetrating wound of employee.
- Used Disposable Razors that could be contaminated with blood.
- I.V. Connector Systems that use needles to connect I.V. setups.

Possible Solutions

Follow the requirements of the Bloodborne Pathogens Standard 1910.1030 and implement engineering and work practice controls to help prevent needlesticks or other sharps exposures.

- Glass Capillary Tubes:
  - Do not pick up broken glassware, such as capillary tubes directly with the hands.
  - Dispose of regulated wastes including capillary tubes properly.
  - Wear gloves when among other things, handling or touching contaminated items or surfaces, such as capillary tubes.
  - In their joint document (Glass Capillary Tubes: Joint Safety Advisory About Potential Risks (1999, February)), OSHA, FDA and NIOSH warn health care workers about the hazards from breakage of glass capillary tubes and recommend using:
    - Capillary tubes that are not made of glass.
    - Glass capillary tubes wrapped in puncture-resistant film.
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