Sharps Safety: United States Occupational Safety and Health Administration (OSHA)

What We Know

› The United States Centers for Disease Control and Prevention (CDC) estimates that approximately 385,000 percutaneous injuries occur in healthcare workers each year in hospitals in the U.S.⁵

• Percutaneous injuries are injuries that compromise skin integrity, including lacerations, abrasions, and cuts from a sharp object or a needlestick injury. The most common devices involved with percutaneous injuries are hypodermic needles or syringes, scalpel blades, winged-steel needles (i.e., butterfly needles), suture needles, and phlebotomy needles. Percutaneous injuries most commonly occur after the use of a sharp device for providing care (e.g., IV insertion) to a patient and before or during disposal of the device. Nurses experience percutaneous injuries more than any other group of workers in the hospital setting (²,⁴,⁷,¹⁰)

• Healthcare workers with percutaneous injuries can be exposed to pathogenic microorganisms that are present in human blood, including hepatitis B virus (HBV), hepatitis C virus (HCV), and human immunodeficiency virus (HIV) (²,³,⁴,⁹,¹⁰)

› The U.S. Occupational and Safety Health Administration (OSHA), a federal agency that is part of the U.S. Department of Labor, regulates workplace safety, standards, and health. The mission of OSHA is to prevent workplace injuries, save lives, and protect the health of workers (⁸)

› The OSHA Sharps Safety Standards were established in 2001 as a result of the enactment of the Needlestick Safety and Prevention Act of 2000. The Needlestick Safety and Prevention Act of 2000 federally mandated employers to implement the use of engineered sharps injury prevention devices. The OSHA Sharps Safety Standards are an amendment to the OSHA Bloodborne Pathogens Standard. Together, these standards seek to prevent and minimize employee sharps injuries and to prevent employees from occupational exposure to bloodborne diseases and infections (⁴,⁶,⁹,¹⁰)

• The OSHA Sharps Safety Standards and the OSHA Bloodborne Pathogens Standard apply to all employers where occupational exposure is a risk to the employees. Occupational exposure is defined as reasonably anticipated job-related contact with blood or other potentially infectious materials. (⁴,⁶,⁹,¹⁰) (For more information, see Evidence-Based Care Sheet: Bloodborne Pathogens: United States Occupational Safety and Health Administration)

– U.S. federal law mandates all healthcare facilities to implement OSHA standards to protect employee rights to a safe work environment. Healthcare facilities should strive to create a culture of safety to prevent and minimize workplace injuries. In addition to complying with the OSHA Sharps Safety Standards, the CDC recommends that healthcare facilities provide employee education on the prevention of percutaneous injuries through best practices, reduce the use of invasive procedures whenever possible, provide a secure work environment, and employ an adequate staff-patient ratio (⁴,³) (For more information, see Evidence-Based Care Sheet: Risk Management: Creating a Culture of Safety)
• The OSHA Bloodborne Pathogens Standard requires that all employers develop written policies containing detailed information for employee protection strategies and implement an exposure control plan for the worksite. Exposure control plans should be individualized for each healthcare organization and should include engineering controls to prevent occupational injuries. (9,10) (For more information, see Evidence-Based Care Sheet: Bloodborne Pathogens: United States Occupational Safety and Health Administration referenced above)

Effective engineering controls identify and remove hazards in the workplace. OSHA defines engineering controls as "controls that isolate or remove the bloodborne pathogens hazard from the workplace.” At a minimum, OSHA requires that engineering control practices for sharps safety and a needlestick prevention plan include the following: (3,4,6,9,10)

• Implementing adequate sharps disposal practices
  – OSHA requires employers to make sharps containers readily available to employees in the immediate area where sharps are used. Sharps containers must be closable, puncture resistant, leak proof, and large enough to accommodate the sharp device. Employers must implement signs and color-coded labels for sharps disposal containers

• Evaluating and selecting safe sharps devices (e.g., sharps disposal containers, self-sheathing needles, blunt-tip suture needles, and safer medical devices such as sharps with engineered sharps injury protections and needleless systems)

• Evaluating and selecting appropriate personal protective equipment (PPE)

• Providing employee training for using sharps safety devices and following proper sharps disposal practices

• Providing employee education regarding epidemiology, signs and symptoms, and transmission of bloodborne pathogen diseases

• Properly containing regulated waste (e.g., having proper biohazard containers for sharps and appropriately removing the contents of the containers)

• Providing HBV vaccination to employees

• Developing procedures for evaluation after an incident of exposure (e.g., immediate employee evaluation by a qualified healthcare professional paid for by the employer)
  – OSHA defines an exposure incident as “a specific eye, mouth, other mucous membrane, non-intact skin, or parenteral contact with blood or other potentially infectious materials that results from the performance of an employee’s duties” (6)

• Maintaining records of percutaneous injuries
  – Employers are required to follow OSHA and state laws for record keeping and reporting occupational injuries and exposures. General OSHA recording criteria requires keeping a record of all work-related injury or illness that results in medical treatment beyond first aid, days away from work, a significant illness or injury diagnosed by a qualified healthcare provider, and/or transfer to other job duties
  – OSHA and some states require keeping a log of the brand and manufacturer of devices that are involved in workplace injuries
  – Documentation of the exposure incident should include details of the employee’s job duties, circumstances leading to the percutaneous injury and exposure incident, vaccination status, and medical history, including infectious diseases. The healthcare provider who is responsible for evaluating the employee should provide details of the depth of the wound, the gauge of the needle (if appropriate), and whether or not fluid was injected through the needle

• Implementing a post-exposure incident follow-up treatment plan. For example, routine monitoring of employees who require antiretroviral therapy after exposure to HIV resulting from a needlestick injury

Although enactment of the Needlestick Safety and Prevention Act resulted in the decline of needlestick injuries and HBV in U.S. workplaces, some work settings still need to improve their sharps safety strategies.

• OSHA has identified surgical settings as an area for improvement. According to EPINet, a voluntary surveillance program for healthcare facility tracking of exposure incidents to blood and body fluids, there were 951 percutaneous injuries reported in 2007 from 29 healthcare facilities in the U.S. The majority (35.9%) of percutaneous injuries occurred in the operating room, and nurses (33.9%) experienced more percutaneous injuries than any other job category in the surgical setting.

In 2012, the U.S. Food and Drug Administration (FDA), the CDC National Institute for Occupational Safety and Health (NIOSH), and OSHA issued a joint safety statement to strongly encourage healthcare workers to use blunt-tip suture needles as an alternative to standard suture needles when suturing fascia and muscle.

What We Can Do

• Become knowledgeable about OSHA Sharp Safety Standards so you can verify that your facility is in compliance; share this information with your colleagues
Collaborate with your colleagues and members of administration to

• create a culture of safety to prevent and minimize percutaneous injuries
• create and implement engineering controls to prevent occupational percutaneous injuries
• appoint personnel to maintain, review, and update the needlestick prevention plan in your facility
• create and implement an employee training program for needlestick prevention and following OSHA Sharps Safety Standards
• implement the use of blunt-tip suture needles as an alternative to standard suture needles
• adopt a site-specific sharps safety policy for the operating room, as appropriate

Become familiar with the vendors that offer safety sharps; for a list of safety devices offered by vendors see https://www.hpnonline.com/inside/2015-12/1512-SharpsSafetyChart.pdf

Adhere to the OSHA Sharps Safety Standards for reporting and treating an exposure incident

Promote the use of EPINet track in your facility to track needlestick and sharps incidents

Alert administration if sharps containers are not conveniently located or if portable containers are needed for individuals that travel to different locations that do not have containers that are easily accessible for the worker; verify that the container accommodates the entire needle assembly

Report unsafe work practices to your facility’s occupational health safety officer and/or OSHA; for more information, refer to https://www.osha.gov/workers/file_complaint.html

Note

Recent review of the literature has found no updated research evidence on this topic since previous publication on April 22, 2016
References


