



Best Practices for Sharps Safety

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**This in-service has been Approved by the CBSPD, Inc. for 1 CEU.

There are millions of healthcare workers who, on a daily basis, are exposed to any number of microbes. Depending on the nature of the exposure, the end result of the exposure can be mild or very severe, even life threatening.

Central Service/SPD workers have the potential for exposure through a variety of mechanisms, however, a major potential for exposure is through a puncture wound from contaminated sharps. One means of transmission for microbes is entry through the skin via a lesion or puncture. Therefore, sharps safety is a major concern.

The Occupational Safety & Health Administration (OSHA) defines sharps as “any object that can penetrate the skin, including, but not limited to, needles, scalpels and broken capillary tubes”.

In the early 1980's, when it was apparent that a new disease called AIDS had emerged, scientists quickly learned that healthcare workers needed to be protected from the HIV virus since it is transmitted through blood to blood contact. As a result of the early work with HIC, the Occupational Safety & Health Administration published the first microbiological hazard standard in 1991 known as the Blood and Blood Borne Pathogens Ruling. This law requires employers to develop and implement guidelines to protect healthcare workers from occupational exposure to blood and other potentially infectious materials (OPIM). These materials include “semen, vaginal secretions, cerebrospinal fluid, synovial fluid, pleural fluid, pericardial fluid, saliva in dental procedures and any body fluid that is visibly contaminated with blood”. Usually these exposures occur through blood, skin, eyes or mucous membranes. OSHA was so concerned about worker safety that the law holds the employer responsible to ensure employees comply with the provisions in the Act.

Needles - Many Central Service/SPD workers remember the old days when cardboard boxes were used as packaging for needles and syringes. As a matter of fact, many of the CS/SPD departments “recycled” the boxes which contained the sterile syringes to be used to hold the used or contaminated syringes. These boxes were simple, cost effective and readily available. However, needle stick injuries were common since needles easily

penetrated through the cardboard box or were often sticking out from the top of the box causing a puncture injury. Central Service also distributed needle "cutters" to break the needles before disposal so they could not be reused. The Blood Borne Pathogen Ruling specifies:

- No recapping of needles
- No breaking or bending needles
- No removal of needles from disposable syringes
- Containment of all used sharps, including needles, syringes, scalpel blades, etc. a rigid, leak proof containers affixed with a Biohazard label.

The Biohazard label (shown above) is the universal means to communicate that the materials contained within are biohazardous. The label must conform to OSHA specifications which is an orange background on which the biohazard sign is imprinted in black. Red bags are also considered universal for biohazardous materials.

Syringe containers should be changed when they are $\frac{3}{4}$ full. A container that is filled beyond this point can result in a sharps injury and an exposure. At some facilities, the back-up containers are kept in SPD or other departments to permit an exchange of containers prior to the usual exchange schedule.

Glassware - If contaminated or potentially contaminated glassware breaks, it should never be picked up by hand because the contaminated glass could cause a cut and result in an exposure. Instead, a dustpan and brush, vacuum or forceps. The glass should be disposed of in a biohazardous rigid container.

Body Fluids - In some facilities, the suction canisters used in the OR are sent to SPD for processing. Some machines dump the blood and body fluids inside a machine then disinfect the reusable canisters with bleach or similar product. In other facilities, SPD personnel just dump the body fluids down a hopper. It is important to prevent splashing of these fluids, especially when disposing them. A splash shield should be installed over the hopper to prevent splashes from contaminating the SPD worker. These shields are clear plastic and can readily be hung from the ceiling.

Sharp Surgical Instruments - This is an area that still needs some attention. Contaminated sharp surgical instruments (i.e. towel clips, skin hooks, etc.) are just as threatening to Central Service/SPD workers as needles, probably more so since very few reusable needles are used today. However, some CS/SPD Departments still process reusable bone marrow, Menghini (liver biopsy) and pleural biopsy (Cope) needles. These needles present difficult challenges for thorough cleaning and handling without injury to the CS/SPD worker.

When the Bloodborne Pathogens ruling took effect, workers were advised not to place their hands into a container containing sharps or sharp instruments to avoid puncture injuries. Many CS/SPD Departments purchased special containers with an inside basket to allow for the transfer of contaminated instruments directly into a mechanical washer without

handling the contaminated instruments. However, best practices for effective cleaning mandates that all devices be opened and, if possible, disassembled to permit thorough cleaning.

It is unavoidable for CS/SPD personnel working in the Decontamination must handle contaminated sharps in order to effectively clean them. Therefore, work practice controls come into play. According to OSHA, work practice control means "controls that reduce the likelihood of exposure by altering the manner in which a task is performed". One example of a work practice control is to change the way contaminated surgical instruments are handled by using an inexpensive (e.g. Pakistani) sponge stick as the mechanism to sort through and/or pick up contaminated instruments. There are also wire mesh gloves which are available from safety companies (e.g. Grainger Corporation) which can be worn under Decontamination gloves to help prevent puncture injuries.

Conclusion – Sharps safety is everyone's business at home and at work. There are too many variables within the microbial community to take chances. Proper personnel protective equipment must be worn each and every time and be consistent with the nature and scope of the task at hand. Furthermore, thorough and frequent hand washing is essential even if gloves are worn. Gloves are permeable so hands must always be washed when gloves are removed.

Employers are required to provide the Hepatitis B vaccine (HBV) to any employee who is at risk of exposure. Hopefully, all SPD workers who qualify have been vaccinated. Any time an incident occurs that results in a sharp injury, it must immediately be reported, an incident report completed and medical attention sought.

Every time a sharp is used, make sure it is disposed of properly. If you find another department is not complying (leaving sharps attached), report this immediately to your Manager, risk Manager or Infection Control Nurse.

Best practices for sharps safety can save your life!

References:

Occupational Safety & Health Administration. "Occupational Exposure to Bloodborne pathogens; Final Rule, vol. 56, No. 235, Federal Register, December 6, 1991.

Johnson & Johnson Medical. Blood Borne Infections: A Practical Guide to Compliance. 1992.

POST TEST QUESTIONS: Best Practices for Sharps Safety

This in-service is Approved by the CBSPD for 1 CEU. Complete this post test and follow the directions at the end of the test for payment and results.

1. Today, a major source of puncture injury to CS/SPD workers is from:
 - A) broken glass
 - B) reusable biopsy needles
 - C) contaminated needles/syringes
 - D) contaminated sharp instruments

2. The Blood Borne Pathogen Ruling holds who responsible for employee compliance with the law?
 - A) the employee
 - B) the supervisor
 - C) the hospital
 - D) the Infection Control Department

3. Disposable, contaminated needle boxes should be replaced when they are
 - A) 2/3rds full
 - B) 1/2 full
 - C) ¾ full
 - D) completely full

4. If an oral glass suction bottle breaks and it contains suction fluids, the best way to pick up the broken glass is:
 - A) using latex gloves
 - B) using rubber gloves
 - C) using a dust pan and brush
 - D) using neoprene gloves

5. The OSHA biohazard sign must be:
 - A) black sign on red label
 - B) red sign on black label
 - C) orange sign on black label
 - D) black sign on orange label

6. Using a sponge stick to sort through contaminated instruments to prevent a sharps injury is an example of
 - A) mechanical change
 - B) work practice control
 - C) environmental control
 - D) process improvement

7. One means of preventing sharps injuries when working with surgical instruments is to
 - A) not handle the instruments
 - B) disinfect the instruments before handling
 - C) wear metal mesh glove liners
 - D) only handle non-sharps

 8. OSHA requires that employers provide which vaccine to employees at risk of exposure to blood and blood borne pathogens?
 - A) Hepatitis C vaccine
 - B) Hepatitis B vaccine
 - C) Hepatitis A vaccine
 - D) Tetanus toxoid

 9. It is important that after removing PPE, the employee
 - A) place the PPE in the proper receptacle
 - B) change their clothes
 - C) wash their hands
 - D) return to work

 10. If a sharps injury is experienced, the incident should be documented on an Incident report
 - A) within 24 hours
 - B) within 48 hours
 - C) within one week
 - D) immediately
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