U. S. Department of Labor
Occupational Safety and Health Administration
Directorate of Enforcement Programs
Office of Health Enforcement

Disposal of Contaminated Needles and Blood Tube Holders Used for Phlebotomy

Safety and Health Information Bulletin

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Purpose

This information document explains OSHA's national policy regarding the disposal of contaminated needles/sharps and blood tube holders following blood drawing procedures. This is not intended to create new requirements and is not a change of any existing requirement or policy. This document addresses the prohibition against the removal of contaminated needles from medical devices unless no feasible alternative exists or it is necessary for a specific medical or dental procedure, as stated in OSHA's Bloodborne Pathogens Standard [29 CFR 1910.1030(d)(2)(vii)(A)]. This includes a prohibition against the removal of contaminated needles from blood tube holders following a blood drawing procedure.

Blood collection needles and tube holders are separate devices used in combination to withdraw blood from a patient's vein. A blood collection needle screws into a blood tube holder, prior to use, then a blood tube is inserted into the holder to collect the blood being drawn from the patient. A blood collection needle has two ends: one at the front end that is inserted into a patient's vein and one at the back end which transports the blood from the vein through a rubber stopper into a blood tube. The tube filled with blood is then sent to a laboratory for analysis. While most conventional blood tube holders can be reused multiple times, in order to best control worker exposure to blood, most healthcare facilities discard the entire device, with needle attached after each use. As healthcare safety research indicates, needlestick injuries after blood draws are most likely to occur while removing the blood-drawing needle from the patient's arm or while disposing of an unprotected needle into a sharps container.[1] Because the reuse of tube holders requires the removal of used needles, exposing healthcare workers to contaminated, unsafe, back-end needles, professional phlebotomists have been urged not to reuse holders.[2]

OSHA has concluded that the best practice for prevention of needlestick injuries following phlebotomy procedures is the use of a sharp with engineered sharps injury protection (SESIP) (e.g., safety needle) attached to the blood tube

NOTICE

OSHA has developed this Information Regarding the Disposal of Contaminated Needles and Blood Tube Holders Used for Phlebotomy to provide relevant information regarding OSHA's policy on the prohibition of contaminated needle removal from medical devices.

This Safety and Health Information Bulletin is **not** a standard or regulation, and it creates no new legal obligations. The Bulletin is advisory in nature, informational in content, and is intended to assist employers in providing a safe and healthful workplace. The Occupational Safety and Health Act requires employers to comply with hazard-specific safety and health standards. In addition, pursuant to Section 5(a)(1), the General Duty Clause of the Act, employers must provide their employees with a workplace free from recognized hazards likely to cause death or serious physical harm. Employers can be cited for violating the General Duty Clause if there is a recognized hazard and they do not take reasonable steps to prevent or abate the hazard. However, failure to implement these recommendations is not, in itself, a violation of the General Duty Clause. Citations can only be based on standards, regulations, and the General Duty Clause.

[1] Blood Collection Needles and Tube Holders; Sharps Safety and Needlestick Prevention. ECRI 2001.

[2] Safety Alert. National Phlebotomist Association, Inc.

holder and the immediate disposal of the entire unit after each patient's blood is drawn.

Background

The Needlestick Safety and Prevention Act and the enforcement of OSHA's Bloodborne Pathogens Standard have increased awareness of injuries caused by contaminated needles. Safety-engineered medical devices have been improved and have become more available to health care workers. While engineering controls exist to significantly reduce injuries to healthcare workers, hazardous work practices continue to cause injuries. One practice that has gained attention is the removal of contaminated needles in order to reuse blood tube holders when drawing blood.

The EPINet (Exposure Prevention Information Network) sharps injury database is coordinated by the International Healthcare Worker Safety Center at the University of Virginia and includes data from 90 healthcare facilities around the country that voluntarily participate in the network. EPINet data from 1993-2001 indicate that approximately 5% (1288/25,043) of injuries were caused by vacuum blood collection needles/tube holder sets. Of phlebotomy device injuries, 33% were sustained by phlebotomists and 7% by clinical lab workers; 11% occurred while "disassembling" phlebotomy needles, and 22% during or after disposal.[3] In the most recent two years of EPINet data (2000-2001), 146 percutaneous injuries from phlebotomy needles were reported from network facilities.[4] Of the 146 percutaneous injuries, 114 included descriptions of the incident provided by the healthcare worker. Of those, 12 reported that they were injured by the "back end" (tube-piercing end) of the phlebotomy needle; this translates to approximately 10.5% (12/114) of percutaneous injuries from phlebotomy needles.* Since phlebotomy needles are hollow-bore and blood-filled, they pose a high risk for transmission of bloodborne pathogens such as HIV, HCV, and HBV. Therefore, it is important, when using these devices, to utilize engineering and work practice controls to minimize the risk of needlesticks, which have been documented to occur as a result of removing phlebotomy needles from blood tube holders.

Previous practice in a number of healthcare facilities was reusing blood tube holders with removable needles in order to reduce costs associated with device purchase and waste removal. However, removing contaminated needles and reusing blood tube holders can pose multiple potential hazards. The manipulation required to remove a contaminated needle, even a safety-engineered needle, from a blood tube holder may result in a needlestick with the back end of the needle, which is only covered with a rubber sleeve.

The Bloodborne Pathogens Standard (29 CFR 1910.1030) and OSHA Instruction CPL 2-2.69, requires immediate disposal of the entire blood tube holder unit, with needle attached after activation of the safety feature, into a sharps container.[5] OSHA's Bloodborne Pathogens Standard (29 CFR 1910.1030(d)(2)(vii)(A)) provides: **"Contaminated needles and other contaminated sharps shall not be bent, recapped, or removed, unless the employer can demonstrate that no alternative is feasible or that such action is required by a specific medical or dental procedure."** More specifically, the CPL states that **"…removing the needle from a used blood-drawing/phlebotomy device is rarely, if ever, required by a**

[3] EPINet Multihospital Needlestick and Sharp-Object Injury Data Report, 1993-2001; International Health Care Worker Safety Center, University of Virginia Health System (90 healthcare facilities contributing data). (Report provided 5/22/03.)

[4] EPINet Multihospital Needlestick and Sharp-Object Injury Data Report: Injuries from vacuum tube blood collection needle/holder, 2000-2001 (61 healthcare facilities contributing data). International Health Care Worker Safety Center, University of Virginia Health System. (Report provided 5/22/03.)

* **Note**: *Other injuries from phlebotomy needles in the EPINet database may have involved the back-end of the needle, but unless the healthcare worker specifies which end of the needle injured them in the description section of the form, it cannot be determined from the data.*

[5] OSHA Instruction CPL 2-2.69, Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens.

medical procedure. Because such devices involve the use of a double-ended needle, such removal clearly exposes employees to additional risk." In a June 12, 2002 interpretation letter, OSHA stated that in order to prevent potential worker exposure to the contaminated hollow bore needle at both the front and back ends, blood tube holders, with needles attached, must be immediately discarded into an accessible sharps container after the safety feature has been activated.

Single-use blood tube holders, when used with engineering and work practice controls, provide a level of protection against needlestick injuries that is unattainable with reuse of blood tube holders. OSHA also requires the use of commercially available SESIPs. The following states OSHA requirements during disposal of contaminated needles or sharps.[6]

Single Use of Blood Tube Holders:

- Prevention of needlestick injuries during disposal of sharps, following phlebotomy procedures, depends on immediate disposal of the blood tube holder unit, with SESIP attached, and as a single unit after each patient's blood is drawn.
- 29 CFR 1910.1030(d)(2)(vii)(A) prohibits the removal of contaminated needles or sharps without documentation by the employer that alternatives are infeasible or that this action is required by a medical procedure. 29 CFR 1910.1030(d)(2)(i) prohibits the use of blood collection needles without SESIPs.

Note: A situation may exist which necessitates using a syringe to draw blood and transfer the collected blood into a test tube before disposing of the contaminated syringe. In such a situation, a syringe with engineered sharps injury protection must be used. Removal of the safety-engineered needle must be accomplished after activation of the safety feature and using safe work practices (including use of mechanical means of removal whenever possible). Transfer of the blood from the syringe to the test tube must be done using a needleless blood transfer device.

[6] All requirements for employers with employees with reasonably anticipated exposure to blood or other potentially infectious materials are contained in 29 CFR 1910.1030.

Appropriate Disposal of Contaminated Sharps:

- Employers must make available, closable, puncture resistant, leakproof sharps containers that are appropriately labeled and color-coded. The containers must also have an opening that is large enough to accommodate disposal of the entire blood collection assembly (i.e., blood tube holder and needle).
- Employees must have access to sharps containers that are easily accessible to the immediate area where sharps are used (29 1910.1030(d)(4)(iii)(A)(2)(i).
- If employees travel from one location to another (e.g., from one patient room to another or from one facility to another), the employee must be provided with a sharps container which is conveniently placed or portable at each location/facility, and is capable of accommodating the entire blood tube holder and needle assembly.

Note: Many sharps containers are designed with openings that do not allow for disposal of a SESIP that is attached to the blood tube holder. These containers would not be in compliance with the bloodborne pathogens standard. Employers must ensure that where blood is being drawn, the sharps container is appropriate for immediate disposal of sharps.

Evaluation Toolbox

- Employers must first evaluate, select, and use appropriate engineering controls (e.g., sharps with engineered sharps injury protection), which includes single-use blood tube holders with sharps with engineered sharps injury protection (SESIP) attached.
- The use of engineering *and* work practice controls provide the highest degree of control in order to eliminate potential injuries after performing blood draws. Disposing of blood tube holders with contaminated needles attached after the activation of the safety feature affords the greatest hazard control.
- In very rare situations needle removal is acceptable.
    - If the employer can demonstrate that no feasible alternative to needle removal is available (e.g. inability to purchase single-use blood tube holders due to a supply shortage of these devices),
    - If the removal is necessary for a specific medical or dental procedure.

  In these rare cases, the employer must ensure that the contaminated needle is protected by a SESIP prior to disposal. In addition, the employer must ensure that a proper sharps disposal container is located in the immediate area of sharps use and is easily accessible to employees. This information must be clearly detailed and documented in the employer's Exposure Control Plan.
- If it is necessary to draw blood with a syringe, a syringe with engineered sharps injury protection must be used in which the protected needle is removed using safe work practices, and transfer of blood