HealthLeaders

# How Healthcare Leaders Can Improve Sharps Safety

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A **"culture of safety"** is a central value in most healthcare institutions. One crucial piece is protecting employees from the risk of occupational exposures to bloodborne pathogens. Indeed, Occupational Safety and Health Administration (OSHA) requires that engineering and work practice controls be used to "eliminate or minimize employee exposure" to the "lowest feasible extent."

Ten years after passage of the Needlestick Safety and Prevention Act (NSPA), it is time to take stock. How is your institution doing to maintain "continuous quality improvement" when it comes to sharps safety?

In data collected by the University of Virginia's International Healthcare Worker Safety Center over the past two decades from a voluntary data-sharing network of hospitals, a significant drop in needlestick injury rates was observed one year after passage of the NSPA in 2000.

Since then, rates haven't changed very much.[1] Such data underscore the need for ongoing efforts and a sustained focus in order to achieve further reductions in sharps injury and blood exposure rates.

## Data-driven improvement

For hospital administrators, evaluating the effectiveness of a sharps safety program should begin with an in-depth look at the institution's sharps injury data. In particular, you should review any clinical areas or procedures in which safety devices are not being used.

At this point, use of safety-engineered devices (SEDs) should be the standard throughout the institution; use of non-safety devices should be limited only to procedures for which a safety alternative is not available. OSHA requires that facilities document where and why non-safety devices are used in the institution's exposure control plan.

Problem areas or procedures can be identified using injury data and then root cause analyses to determine if the injuries were related to product design, device failure, user error, or another cause, such as sudden patient movement during a procedure.

This approach was used successfully in a performance improvement project at 537-bed Good Samaritan Hospital Medical Center in West Islip, NY. After an analysis of sharps injury data revealed that a disproportionate number of injuries sustained by phlebotomists involved a safety butterfly needle, a study was initiated that included one-on-one interviews with injured staff.

The investigation uncovered an issue with the device's design: the protective sheath had to be manually-pushed over the contaminated needle, causing users' fingers to be in close proximity to the needle and increasing injury risk.[2]

When device retraining was unsuccessful in reducing injury rates, frontline staff were engaged in selecting and evaluating an alternative safety device. The new device proved successful in significantly reducing injuries. Although the device was more expensive, its higher cost was offset by savings realized from prevented injuries and follow-up treatment.

The Good Samaritan study provides a model for an interdisciplinary, systematic approach to sharps safety improvement—including soliciting input from frontline staff to analyze the cause of injury and to identify, select, and evaluate a SED that addresses a specific design or usage problem.

## Safety device activation

Hospital administrators need to make sure that safety-engineered devices are being consistently activated after use. If they aren't, they are a waste of the institution's money—and, more importantly, they pose an injury risk to the device user and others who may come in contact with it. You can check compliance with acti-

vation of safety devices by performing random audits of sharps disposal containers in various clinical areas.

This can also provide a measure of user acceptability. If you find that a specific type of safety device that is not being activated, hone in on the problem and investigate the reasons why. Does the device require a change in technique? Are users uncomfortable handling it or uncertain how to activate the safety feature? If so, would additional training resolve the problem, or is it time to look at alternatives?

Many facilities hold annual in-service educational programs on safety devices; a safety device "fair" can educate and update staff on available devices and give manufacturers an opportunity to share new products.

A hospital in North Carolina requires that each clinical department conduct an annual competency review of high-risk procedures and devices; in addition, staff must attend a yearly "Sharps, Spills, and Splashes" session that includes hands-on demonstrations of the correct use of safety devices that are available in the institution.[3] The participation of product reps in such meetings gives staff an opportunity to ask questions, voice concerns, and provide feedback about specific devices.

## Keep your staff involved

Participation of frontline clinical staff is mandated by NSPA and is critical to the ongoing process of evaluating the effectiveness of SEDs. You may find it useful to designate a go-to person for issues concerning sharp devices; that person needs to keep channels of communication open and build trust so that staff can feel free to raise questions or identify problems.

That person should also maintain an up-to-date inventory of SEDs available and in use. When a sharps injury or blood exposure occurs, some institutions use an alert system, sending a notice to all staff with details about the event (while, of course, maintaining the injured employee's anonymity), along with prevention tips, if appropriate, from the worker involved. You can also encourage staff to report "near misses."

## Keep an eye on sharps disposal

If you see a pattern of injuries related to device disposal, make sure your protocols related to sharps disposal containers are clear and being consistently followed. In particular, check that disposal containers are located at the point of use and are being replaced before becoming overfilled, and that everyone who handles sharp devices knows that safe and proper disposal of contaminated devices is the responsibility of the device user.[4]

## Updating the exposure control plan

All these procedures and precautions help to fulfill OSHA's requirement to review and update the institution's exposure control plan at least annually to "reflect innovations in procedures and technological developments" including "newly available medical devices designed to reduce the risk of percutaneous exposure to bloodborne pathogens."

A periodic review ensures that the exposure control plan remains "current with the latest information and scientific knowledge pertaining to bloodborne pathogens."

## Improving compliance in the OR

In the surgical setting, four strategies recommended by the American College of Surgeons and other experts should guide efforts to reduce sharps injuries:

1. Implementation of blunt-tip suture needles
2. Use of other safety devices such as shielded scalpels
3. Use of the hands-free passing technique
4. Double gloving[5-6]

The number one cause of injury in the OR is suture needles, but not enough surgeons are using the safer alternative.7 "Blunt" suture needles can be used to suture internal tissue such as muscle and fascia, but they are not sharp enough to penetrate skin.

Over the last decade, manufacturers have improved the design of these needles, and offer a wider range of suture/needle combinations; blunt suture needles also have the advantage of being cost neutral (roughly the same cost as conventional ones).

About a third of scalpel-related injuries occur during passing, and many of those injuries are sustained by the person on the receiving end of the transfer.[7] Establishing a mandatory hands-free or "neutral" zone is a key work practice to help reduce injury risk.[8] A neutral zone can be created in a variety of ways.

At least three options have been identified that are suitable for most surgical procedures—a commercial

product marketed specifically for this purpose, an emesis or square basin, or a magnetic pad.[9] The scrub person should inform the surgical team which method will be used during the time-out prior to surgery.

Keeping your institution's sharps safety program up-to-date and effective will always be a work in progress. In 2001, the Centers for Disease Control and Prevention (CDC) included the elimination of needlestick injuries on a list of seven "Healthcare Safety Challenges." While that goal is lofty—and perhaps unreachable as long as we use sharp devices in caring for patients—every healthcare facility can strive to reduce sharps injuries and blood exposures to, as OSHA says, the "lowest feasible extent."

Continued vigilance is necessary to ensure that effective and appropriate sharps safety technology and work practices are available and consistently used in hospitals and outpatient settings nationwide.

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