

Welcome to *Patient Safety E-lets*, a special report reviewing various issues affecting patient safety. We welcome your comments; please send them to patientsafety@ecri.org or visit www.ecri.org/PSO.

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At the Sticking Point: When Sharps Safety Features Fail to Protect

Since protective devices have become widely used, the number of reported sharps injuries has declined. However, ECRI Institute PSO has received reports on sharps injuries because of incorrect activation of the safety features, or malfunction of protective devices.

ECRI Institute's research has found that most hospitals have ongoing programs to address sharps safety, but that these programs may have been established some time ago and no longer receive adequate attention or achieve the expected level of effectiveness. Continuing injuries are a signal that additional attention is needed; it could be that clinicians are using poor technique, that the safety devices being used should be replaced with more effective models, or that gaps exist in the facility's sharps safety program.

Numerous protective devices for a multitude of sharps aim to protect healthcare workers from injury and exposure to bloodborne pathogens. Most protective devices require users to activate the safety feature, such as by pushing a button or sliding a protective sheath over the needle or blade. The incidents seen by ECRI Institute occurred when the healthcare workers were either activating the safety feature or thought it was activated.

Incorrect activation (e.g., attempting to push the safety feature over the needle when the design requires pulling the needle back into shielding) may cause hands to be positioned incorrectly and exposed to the contaminated sharp. Although less common than activation errors, a protective device may malfunction due to a manufacturing defect. Such defects may impede the safety feature activation or it may not fully cover the sharp.

If a safety feature is difficult to activate, whether due to device design, incorrect user technique, or device malfunction, users may apply more force or place hands in a precarious position increasing the risk of injury.

Different from sharp injuries occurring when using protective devices, injuries also occur due to improper disposal of the sharps. ECRI Institute has heard anecdotal evidence that would indicate some injuries have occurred when sharps are disposed into overfilled sharps containers.

Take Home Point

Since healthcare workers may use a variety of protective devices daily, they need to be proficient with each protective device. Also, it is important to encourage staff to document all difficulties with the protective devices. This documentation will aid hospital personnel who are responsible (e.g., Nurse Educators, Infection Control personnel, Risk Managers) for assessing and addressing the effectiveness of current devices and the frequency of training. Additionally, the monitoring and handling of sharps containers should be routinely reviewed.

Key Contributing Factors

- Management: Education and adherence to procedures required
- Workflow: Procedures should be clear, well known, and easily followed
- Environment: Potentially defective or easily misused supplies

Key Recommendations

1. Sharps should be disposed of safely and immediately after use.
2. Conduct ongoing mandatory training sessions for both new and experienced staff to review each device's safety feature activation, proper handling and disposal of sharps. Include the training for all new staff during their orientation period.
3. Include demonstration of proficiency as part of competency assessments.
4. Include as part of training reminders that protective devices occasionally fail. It can't be assumed that the sharp is shielded just because the safety feature is activated. If a safety feature fails, users should not attempt to manually engage it.
5. Ensure that the schedule to empty sharps containers is adequate for their frequency of use. Instruct users to report sharps containers whose contents are near the fill line to the responsible party (e.g., environmental services), and include their contact information on the container. Include monitoring of sharps containers as part of facility environmental rounds.
6. Encourage a culture of safety. Urge staff to report sharps injuries. Report problems to suppliers and your PSO. Consider reporting to FDA's MAUDE database and ECRI Institute's Medical Device Problem Reporting System. Be informed about suppliers' procedures for handling device failure and return.
7. Conduct Root Cause Analyses to determine how the injuries occurred and if systems or process causes can be corrected. Avoid blaming the user, and look for systems issues.
8. Assessment of all procedures should be performed when determining ideal locations for sharps containers as well.

Medical Director's Note

ECRI Institute continues to see reports of sharps injuries for various reasons. It is important that staff report all such injuries—including pertinent information, such as the type of sharp being used, how it was being used, and if the safety feature was engaged or not—promptly to the appropriate person, such as Occupational Health. This information can help review the efficacy of the organization's sharps injury prevention program and provide information on potential gaps in the system that should be rectified. If staff members in your institution are experiencing sharps injuries, we can provide confidential assistance to determine why this occurred. This *Patient Safety E-lert* provides participating organizations with an additional periodic educational awareness to help prevent healthcare events from happening in their facilities. To discuss your sharps injury concerns, please contact us at (610) 825-6000 or patientsafety@ecri.org and we will forward your questions to our experts.

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Additional ECRI Institute Resources

Medical Device Problem Reporting. Available from Internet:

<https://www.ecri.org/PatientSafety/ReportAProblem/Pages/default.aspx>.

Preventing Sharps Injuries [self-assessment questionnaire]. *Healthcare Risk Control*. 2008 Jul.

Sharps Injury Prevention Programs. [risk analysis]. *Healthcare Risk Control*. 2012 Nov.

Sharps Injury Prevention Training Program. *Healthcare Risk Control*. 2008 Nov.

References

¹ CDC. Sharps safety for healthcare settings. 2010 Jul 27. (cited 2013 Nov) Available from Internet:

<http://www.cdc.gov/sharpsafety>.

² OSHA. Needlestick Safety and Prevention Act FAQ. (cited 2013 Nov) Available from Internet:

<https://www.osha.gov/needlesticks/needlefaq.html>.

³ ECRI Institute. Sharps Disposal Containers [evaluation]. *Health Devices* 2003 Jul;32(7):263-268,270.

⁴ ECRI Institute. *Sharps Safety and Needlestick Prevention*. 2nd ed. 2003. Plymouth Meeting, PA.

⁵ ECRI Institute. Still getting stuck—protective devices alone won't always prevent needlestick injuries [hazard report]. *HealthDevices* 2009 Sep;38(9):306-7.

⁶ ECRI Institute. Top 10 Health Technology Hazards for 2012: The Risks That Should Be at the Top of Your Prevention List [guidance article]. *Health Devices*. 2011 Nov;40(11):358-73.

⁷ U.S. Department of Labor. Healthcare Wide Hazards: Needlestick/Sharps Injuries. (cited 2013 Nov) Available from Internet:

<https://www.osha.gov/SLTC/etools/hospital/hazards/sharps/sharps.html>.

Reporting to ECRI Institute PSO

ECRI Institute PSO analyzes the reports submitted by its member organizations and collaborating PSOs to identify safety concerns and trends. We share our findings about a particular hazard and lessons learned with participating organizations in our *Patient Safety E-Lert*. ECRI Institute PSO encourages its participating organizations to continue to submit their reports under the legal protection of the PSO to promote such learning. Visit your PSO portal to see an archive of previous issues of *Patient Safety E-Lert*.

Patient Safety E-lerts Are Part of ECRI Institute's Patient Safety Resources

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