



Premier Safety Institute® - Sharps safety device field evaluations

Information accessed from: http://www.premierinc.com/quality-safety/tools-services/safety/topics/needlestick/device_evaluations.jsp

Introduction

Premier is committed to promoting innovation in healthcare technology and ensuring that its members have access to the most technologically advanced products. The Premier Safety Institute was established to support the Premier healthcare alliance’s goal of improving the health of communities, and to this end, supports Premier’s process to make new and innovative products available to members. As part of this process, the Safety Institute conducted field evaluations of sharps safety devices in Premier hospitals beginning in March 1999. These devices were selected by front-line clinicians from hospitals serving on special task forces formed by Premier group purchasing services. The devices selected at the time may have changed, but the results of these field evaluations remain relevant today. The findings have been used, in part, to ensure continued member input into the contracting process and to identify performance considerations for safety devices that would contribute to innovation in future product designs. Premier offers an array of sharps safety devices from more than 29 suppliers to assist members in meeting current OSHA requirements intended to protect workers from unnecessary sharps-related injuries and potentially life-threatening bloodborne pathogen infections.

Purpose - safety device field evaluation

- Identify key factors that contribute to innovative safety devices
- Share relevant information on performance considerations with participating device manufacturers to assist in future design improvements
- Contribute to the science of understanding performance considerations for safety devices

Phlebotomy devices

Scope

580 healthcare workers in 25 hospitals evaluated an estimated 17,275 phlebotomy devices from five manufacturers. Devices were selected for evaluation by Premier task force of practicing phlebotomists and clinicians.

Devices evaluated

Name	Description
Vanish Point:	Tube holder based–needle retracting tube holder, Retractable Technologies, Inc.
Punctur-Guard:	Needle based – self-blunting needle, ICU Medical Inc.
Eclipse:	Needle based – shielding needle, BD
Saf-T-Clik:	Tube holder based – needle shielding tube holder, Portex Inc.
NeedlePro:	Tube holder based – needle shielding tube holder, Portex Inc.

The five most important performance considerations for all phlebotomy devices evaluated:

1. Reliability of safety feature
 2. Ease of use
 3. Disposal in sharps container
 4. No interference with blood draws
 5. No risk of splash, leakage, or drips of blood
- 68 percent of participants activated the safety feature 100 percent of the time
 - 70.6 percent of participants felt comfortable with the device after 10 uses (46.6 percent after five uses)
 - 81 percent of participants felt the devices would protect against needlesticks
 - 30 percent of participants stated design modifications would increase comfort level

Safety needle and syringe devices

Scope

298 healthcare workers in five hospitals evaluated an estimated 19,732 safety syringes. Devices were selected for evaluation by Premier task force of practicing clinicians.

Devices evaluated

Name	Description
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Vanish Point:	Needle retracting syringe/needle, Retractable Technologies, Inc.
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SafetyGlide:	Shielding needle guard, BD
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Safety-Lok:	Protective syringe with sliding needle guard, BD
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SafetySyringe:	Needle retracting syringe/needle, New Medical Technology
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SafetyTip:	Protective syringe with hinged recap needle shield, Safety Medical Supply International
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Results

The five most important performance considerations for all safety syringes evaluated:

1. Ability to deliver accurate dose of medication
 2. Reliability of safety feature
 3. Hands remain behind needle
 4. Medication visibility in syringe
 5. Ability to function satisfactorily for intended use
- 90 percent of participants reportedly activated the safety feature
 - 80.6 percent of participants felt comfortable with the device after five uses (45.6 percent after one use)
 - 79 percent of participants felt the devices would protect against needlesticks

Summary

This field evaluation identified the performance considerations for selected sharps safety devices that were most important to users. This information was shared with each manufacturer to consider in any future safety device designs. The performance considerations may also be useful to individuals responsible for selection, evaluation, and adoption of sharps safety devices in their specific healthcare settings. For resources and tools for conducting evaluations, see [Sharps injury prevention - resources](#).

Front-line workers should be included in the selection and evaluation process. Moreover, all safety devices the organization's staff considers appropriate should be evaluated, regardless of whether they are covered by a group purchasing contract.

The final selection of sharps safety devices will depend on numerous factors specific to each facility, such as front-line worker preferences, prior experience with safety devices, type of clinical procedures performed, noise or lighting in the clinical setting, patient populations, or even the size of the workers' hands.

Other factors that might be considered in the final selection that will vary by setting, include:

- Functional reliability of safety feature
- Suitability-range of uses across patient populations and procedures
- Intuitiveness/ease of use
- Active versus passive
- Single- or two-handed use
- Amount of change in technique required
- Indication of activation
- Defeatability of safety feature
- Packaging
- Sharp covered permanently
- Interference with procedure
- Right- or left-handed use
- Breadth of the product line (such as lengths and gauges of needles)
- Studies in the literature on efficacy
- Cost

The results of these field evaluations and the performance considerations that were identified should serve only as a guide and do not identify the "best" device. No single device can be considered the "best" or "safest." Safety devices that fulfill a specific organization's needs and preferences of the staff are the "best" devices for that facility. Premier currently leads the industry in offering a broad selection of sharps safety [devices under contract](#) from more than 29 suppliers. For more information on a complete sharps injury prevention program see [Sharps injury prevention](#).