



Selecting a Sharps Container and Service Provider

WHITE PAPER

Table of Contents

Introduction	3
Maintaining a safe work environment.....	3
The reusable vs. disposable container dilemma	4
Are reusable containers safe?	4
Principles of disease transmission	4
Infection risk and disinfection level	5
Compliance	5
Protecting the environment.....	6
Selecting a reliable partner	6
Conclusion.....	6
References	7

Introduction

Regulated medical waste (RMW), commonly referred to as red bag waste, presents healthcare facilities with challenges in the areas of employee safety, transmission of infectious diseases, environmental protection and standardizing processes across multiple facilities. Sharps disposal is one of the most sensitive areas of RMW because of the risk of needlesticks and other sharps injuries. It is estimated that there are more than 2.36 million sharps containers of all types used in U.S. hospitals at any one time, with the vast majority being processed by outside service providers. Approximately 50 percent of these containers are reusable.¹ Managing medical waste isn't simple and there are a lot of different container options and service providers available. That is why it is essential to partner with a sharps container and service provider that has the reliability, depth and experience to handle this highly regulated waste stream. This white paper considers some of the key considerations involved in selecting a sharps container provider, with an emphasis on comparing and contrasting disposable and reusable container services.

Maintaining a Safe Work Environment

The Centers for Disease Control and Prevention (CDC) estimates that there are 385,000 healthcare worker (HCW) needlestick and sharps-related injuries annually in hospitals.² The potential for acquiring a communicable disease such as HIV or hepatitis B related to sharps injuries is a big concern for Infection Preventionists. The related investigative and treatment costs for these injuries can range from \$2,500³ to \$5000⁴ per needlestick and don't take into account the mental duress and stress for HCWs.

In an outsourced scenario, sharps service providers utilize trained technicians, rather than the facility's HCWs, to remove sharps containers from designated areas and replace them with new containers. With this type of service, the need for handling sharps containers by hospital staff is reduced. Since this exchange is done on a set schedule and the containers are monitored proactively, sharps containers are rarely overfilled. For these reasons, facilities that use a sharps management service with proactive container exchange significantly reduce HCWs' risks of sharps injuries.

Lid design of sharps containers also plays a role in HCW safety. Ideally, the HCW should be able to easily drop the sharp into the container without having to engage the lid. A vertical drop container design limits injuries especially when discarding flexible lines attached to sharps, for example, a winged steel needle blood drawing device or a 'butterfly.' HCWs should also be able to see inside the container to determine how full it is and to avoid potentially overfilling a container and obtaining a needlestick injury. A sharps container provider that has carefully designed its containers to address these issues can also help reduce sharps injuries and help avoid the associated costs.

"Most facility leaders share a concern for needlestick injuries and infection, which leads many healthcare systems to adopt proactive sharps management services with prudent container exchanges. This is where collaboration with external partners who have decades of dedicated experience in their service niche can pay dividends in avoided risk and successful enterprise operations," said Renee Huslin, Corporate Sustainability Officer, Sharp HealthCare.⁵

The Reusable vs. Disposable Container Dilemma

Are Reusable Containers Safe?

Since the introduction of reusable sharps containers there has been some concern expressed that they may be potentially contaminated after processing and infection could potentially be brought into a healthcare facility. At closer inspection of infection transmission concerns, there appears to be: an overall lack of proper scientific methodology and disease transmission, based on correlation of different data sources vs. actual data, or an unbalanced view point.



“Since *C. diff* is a major hospital acquired infection and all of the literature [on prevention] to date has focused on antibiotic stewardship and handwashing, there is no reason to be alarmed that reusable sharps containers are anything but safe and should continue to be used,”

Kelly Romano, MPH, CIC, Einstein Medical Center, in Montgomery, Pennsylvania.⁶

Many times the most virulent or concerning infection is leveraged in an attempt to gain attention and try to make a connection to the possibility of reusable sharps containers and disease transmission. However, there are many hospitals using reusable sharps containers that have very low *C. difficile* rates.⁷ A review of PubMed indicated that of more than 5,000 peer reviewed articles on *C. diff* that there had never been a previous published article regarding *C. diff* infections and sharps containers.

Principles of Disease Transmission

Then there is the question of how noncritical care items such as reusable sharps containers, which are not intended to be touched by HCWs or come close to patients, could provide an avenue for disease transmission. Sharps containers are classified as “environmental surfaces” by the CDC along with many other noncritical care items such as tables, bed rails, counters and doorknobs. The CDC states that “although microbiologically contaminated surfaces can serve as reservoirs of potential pathogens, these surfaces generally are not directly associated with transmission of infections to either staff or patients.”⁸

Sharps containers provide a less likely vehicle for disease transmission than other noncritical care items because they nearly always remain outside of the immediate sphere of a patient’s environment of care and are not handled by a patient, or carried by a HCW to directly contact the patient. Furthermore, HCWs wear gloves when disposing of sharps. They drop the needle into the container, rarely touching the exterior of the container. If they accidentally come into contact with the container, then they follow hand-hygiene best practices and wash their hands.

Infection Risk and Disinfection Level

“Because environmental services workers wear gloves when handling sharps containers and a third-party partner exchanges near-full containers, we are skeptical of any association between containers and an increase in disease transmission, no matter the pathogen,” said Ann Marie Pettis, Director of Infection Prevention at the University of Rochester Medical Center.⁹

The universally accepted APIC guidelines for infection control practices uses the Spaulding Classification that advocates processes that result in an ascending order of microbial kill: disinfection for noncritical items, high-level disinfection for instruments that enter a non-sterile cavity of the body and sterilization for invasive devices such as surgical instruments.¹⁰ Due to their low risk, reusable sharps containers require only low-level disinfection. However, some sharps management service providers go one step further by performing intermediate-level disinfection and have received FDA market clearance for their containers.

APIC Guidelines for Infection Control Practices: Classification of Devices and Processes ¹¹		
Device Classification	Device Examples	Spaulding Process Clarification
Critical (enters sterile tissue, vascular system or body space)	Implants, scalpels, needles surgical instruments	Sterilization
	Endoscopes, laryngoscopes, endotracheal tubes	High Level Disinfection (HID)
Semi-critical (touches mucous membrane)	Thermometers	Intermediate Level Disinfection
Non-critical (touches intact skin)	Smooth, hard surfaces (e.g., hydrotherapy tanks)	Intermediate Level Disinfection
	Stethoscopes, tabletops, floors, bedpans, furniture, reusable sharps containers	Low Level Disinfection

Compliance

Some of the qualifications that should be addressed in validating a provider are its regulatory and compliance knowledge, such as OSHA and DOT regulations. A provider should also possess expertise in the:

- Collection and transport in compliance with Federal, state and local laws
- Observance of Department of Transportation (DOT) regulations (49 CFR 173.197)
- OSHA’s Bloodborne Pathogen Standards, 1910.1030(d)(4)(iii)(A)
- American Society for Testing and Materials (ASTM) Consensus Standards for Puncture Resistance (ASTM F2132-01:2–8)
- Food & Drug Administration (FDA) market clearance as a class II medical device

Betty Jones, Director of Infection Prevention and Employee Health at Sierra View Medical Center, Porterville, California, stated, “The reusable sharps containers Sierra View chooses meet OSHA standard 1910.1030(d)(iii)(A) and are closeable, puncture resistant, leak proof and have warning labels. The containers received FDA 510k market clearance as a Class II non-critical care medical device. According to the Spaulding Classification, they require low-level disinfection yet are disinfected to an intermediate level.”¹²

Protecting the Environment

A key impetus behind the recent growth in popularity of reusable sharps containers is the desire to reduce the environmental impact and cost of operations associated with the regulated medical waste stream including inventory and staff handling time. Reusable containers help reduce landfill waste, increase landfill expiration dates by minimizing volumes of plastic and cardboard going into them, and save the resources used to produce new containers. In this way, they help healthcare facilities minimize the carbon footprint on the environment.

A potential indicator of a partner's commitment to sustainability is the organization's internal focus on sustainability. Find out if they have continuous improvement projects with the goal of helping their customers and their own company to be greener.

Selecting a Reliable Partner

The reliability of a sharps container and a service provider is critical, particularly for a regional or a national health system with a group of medical facilities. Consistent and reliable service can best be assured by a provider that, in the event of a natural disaster or other interruption in service, can easily route waste treatment to another facility for processing. This assures dependable, uninterrupted service. Do your due diligence in interviewing potential sharps service provider and ensuring that they meet your needs. Many sharps container providers will host plant tours and this is an excellent opportunity to address any concerns you have with moving forward.

Dr. Allen Weiss, CEO and President of Naples Community Hospital Healthcare System, summarized the importance of a reliable partner:



“Minimize risk through partnerships and recognize that solutions for safely disposing of different waste types affect entire health systems. One cannot run a safe and sustainable system without a comprehensive approach to managing multiple waste streams, including sharps. The larger the health network, the greater the risk for managing ever-changing regulations.”¹³

Conclusion

As the impact of healthcare reforms continue to unfold and regulatory oversight increases, hospitals need cost-effective solutions that keep hospitals compliant and workers safe and decrease the impact of waste on the environment. A sharps container and service provider can help address these challenges, thereby freeing up hospital time and resources to concentrate on the core mission of providing patient care.

References

1. Anne Dikon, "A response to the relationship between different types of sharps containers and Clostridium difficile infection rates in acute care hospitals," *American Journal of Infection Control*, May 1, 2016, Volume 44, Issue 5, Page 612.
2. "Stop Sticks Campaign," The National Institute for Occupational Safety and Health (NIOSH), Centers for Disease Control and Prevention.
3. "Sharps' injuries have major health and cost impact for surgeons," *Science Daily*, April 2, 2013.
4. Marython Associates, Inc. Client Survey, May 2013.
5. Renee Huslin, "High Risk, High Reward Healthcare, Part 2," *Advance Healthcare Network Executive Insight*, July 13, 2015.
6. Kelly Romano, "Reusable Sharps Containers and Disease Transmission: Fact or Fiction?," *Infection Control Today*, October 5, 2015.
7. Heather Punke, "Which 9 hospitals reported zero C. diff and MRSA infections?," *Becker's Hospital Review*, July 30, 2015.
8. "Guidelines for Environmental Infection Control in Health-Care Facilities, Recommendations of CDC and the Healthcare Infection Control Practices Advisory Committee (HICPAC). Centers for Disease Control and Prevention." MMWR 2003: 52 (No. RR-10): 1-48.
9. "Evolving Sharps Management: Reusable sharps containers protect health care workers, patients and the environment," *Greenhealth*, January 14, 2016.
10. Rutala WA. "APIC Guideline for selection and use of disinfectants", APIC Text of *Infection Control & Epidemiology*, 2002.
11. "APIC Guidelines for Selection and Use of Disinfectants," *American Journal of Infection Control*, Vol 24, No.4, pp. 313-342, August 1996.
12. Betty Jones, "Evidence-based outcomes help track disease prevention initiatives from many angles," *Environment of Care Leader*, October 26, 2015.
13. Allen Weiss, MD, "The role leaders play in shared accountability, smart investments and savvy partnerships," *Advance Healthcare Network Executive Insight*, May 4, 2015.

For more information, visit stericycle.com

© 2018 Stericycle, Inc. All rights reserved. STC_LQMSWP_0218

