

Moving the Sharps Safety in Healthcare Agenda Forward in the United States:

2020 Consensus Statement and Call to Action

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Executive Summary

As a result of the leadership of a variety of stakeholders, including our partners in the federal government, the U.S. has made significant progress in protecting healthcare workers from exposure to bloodborne pathogens. Other countries use the Bloodborne Pathogens Standard (BPS) and the subsequent Needlestick Safety and Prevention Act (NSPA) as models for their efforts to address this critical component of occupational health and safety in healthcare facilities.

Data from two surveillance systems in the U.S. have demonstrated a decline in the rate of sharps injuries in the first decade after the BPS was revised in 2001. However, data from the following decade shows that this decline has not continued, highlighting the need to focus attention to this potentially dangerous hazard.

In an effort to refocus attention to sharps injuries, this consensus statement provides data on rates of injury and circumstances surrounding sharps injuries, outlines the requirements of the OSHA Bloodborne Pathogens Standard, lists facility-based measures and controls for prevention of injury and exposure, and provides policy-based recommendations to protect healthcare workers today and into the future. There are broad recommendations based on surveillance findings to address the most common circumstances, as well as recommendations for action directed to healthcare facilities, including specialty settings, professional associations, standard setting organizations, manufacturers, regulatory agencies and accrediting organizations.

While we celebrate the progress we have made since the 2010 consensus statement, we must acknowledge the gaps that remain and redouble our efforts to ensure that all healthcare workers, regardless of the setting in which they practice or the procedures they perform, are offered the same level of protection from sharps injuries and exposures to bloodborne pathogens (UVA, 2010). We hope that the recommendations that follow guide healthcare employers, regulatory and accrediting bodies, labor unions, and advocacy groups to build safer workplaces for those providing patient care.

Introduction

The risks of occupational exposure to blood, body fluids, and other potentially infectious materials (OPIM) are greater today than in decades past. Increased global travel can result in broad spread of emerging infectious diseases. The emergence of these previously unknown pathogens, such as COVID-19, highlights the critical role that the safety and health of healthcare workers play and the importance of protecting them from workplace hazards. Additionally, the increased prevalence of individuals living with co-infections such as HIV and HCV, and the growing pressure for providers to see more patients in less time, exacerbates the risk of work-related exposures to disease. It is our goal to continue to focus on ways to protect healthcare personnel from harm, thus mitigating these risks.

The year 2020 marks the 20th anniversary of the Needlestick Safety and Prevention Act and its amendment to the Occupational Safety and Health Administration (OSHA) Bloodborne Pathogens Standard (29 CFR 1910.1030) (OSHA, 2001). Areas covered by these regulations include sharps disposal practices, evaluation, and selection of devices with sharps injury prevention (SIP) features and personal protective equipment (PPE), education and training, recordkeeping for sharps injuries, HBV vaccination, and post-exposure follow-up. Over the past 20 years, the standard continues to be effective in driving healthcare employers to significantly reduce needlesticks, sharps injuries, and blood and body fluid exposures, as well as the resulting infections from bloodborne viruses. Medical device manufacturers, in the U.S. and other countries, have also played an important role in reducing sharps injury risks to U.S. healthcare workers by developing innovative technologies and controls in a broad range of product categories.

Identifying why and how injuries occur is a critical component in any prevention program. To facilitate this process, it is essential to have a robust surveillance system in place that captures information about the occupations, departments, and workplaces at risk. A sharps injury surveillance system also needs to identify procedures that may result in an injury or exposure and include information about the devices involved. Such a surveillance system may also serve to fulfill the BPS requirements for a Sharps Injury Log (as noted below in the OSHA requirements, **paragraph H, Table 3, Appendix**). Surveillance findings can be used for quality improvement purposes by occupational health, environmental health and safety, risk management, infection prevention and control or other departments and committees responsible for improving processes, making purchasing decisions and protecting workers. It is important to remember that under-reporting occurs with any surveillance system that relies on self-report by workers. Therefore, having a culture of non-punitive injury and exposure reporting is necessary in order to provide the most complete picture. Studies have shown that under-reporting varies by healthcare setting and by occupation and ranges from 24-86% (Boden, 2015; Kessler, 2011). Therefore, most surveillance findings must be considered an undercount of the true experience in a facility.

According to the Bureau of Labor Statistics (BLS), the healthcare sector is expected to add 2.4 million new jobs between 2019-2029 (Bureau of Labor Statistics, 2020a). Clearly, this population of workers will continue to be at risk.

While not the focus of this consensus document, post exposure protocols to treat workers who experience a sharps injury are equally important as the sharps injury prevention measures described below. In addition to baseline testing for the injured worker and source patient testing for hepatitis B, hepatitis C, and HIV, those protocols include an assessment of the circumstances surrounding the injury to assess risk of transmission of disease, and the need for post exposure prophylaxis. Post exposure protocols are a requirement of the OSHA Bloodborne Pathogens Standard (**Table 3, Appendix**) and follow the recommendations of the U.S. Public Health Service current at the time that the post exposure follow-up is provided.

Data Findings

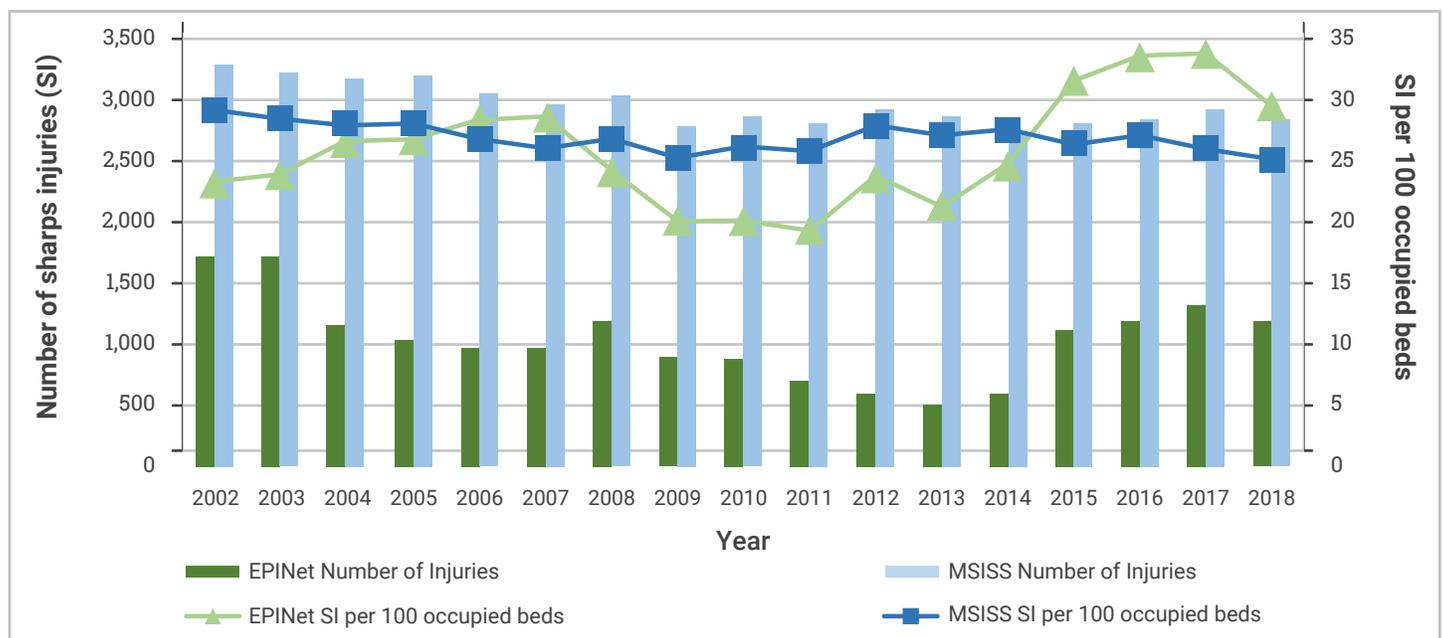
Data from two large, multihospital sharps injury surveillance networks provide a picture of where we are today: the EPINet Sharps Injury Surveillance research group (EPINet®) coordinated by the International Safety Center and the Massachusetts Sharps Injury Surveillance System (MSISS), maintained by the Massachusetts Department of Public Health (MDPH) (ISC, 2018; MDPH, 2020).

The data from these two surveillance systems have been in place for over two decades. Interestingly, their findings are remarkably similar and therefore worthy of consideration.

EPINet was established in 1993 with hospitals from across the country voluntarily submitting data on blood exposure incidents, including sharps injuries. The Massachusetts Sharps Injury Surveillance System was established by the Massachusetts Department of Public Health in 2001 and has been reporting data since 2002. All hospitals licensed by MDPH are required to submit sharps injury data annually. For both EPINet and MSISS, rates varied according to teaching status and hospital size, with substantially higher rates typically seen for teaching hospitals and hospitals over 300 beds (with the two being closely correlated – i.e., teaching hospitals tend to be large hospitals).

EPINet documented a decline in sharps injuries in the eight years after enactment of the Bloodborne Pathogens Standard (BPS) in 1992. This decline continued through 2010 following passage of the NSPA in 2020 and subsequent revisions to the BPS and was documented by both EPINet and the Massachusetts Sharps Injury Surveillance System. However, that decline in total sharps injuries has not been sustained and has not been accompanied by a decrease in the number of sharps injuries per 100 occupied beds. In the last few years, surveillance data indicate that sharps injuries are increasing in U.S. healthcare settings (MDPH, 2020; ISC, 2019). This is reason for concern. In an increasingly complex and changing healthcare environment, renewed commitment is needed to achieve further progress.

Figure 1. Number and rate of sharps injuries per occupied beds among all workers in acute care hospitals only, EPINet and Massachusetts Sharps Injury Surveillance System, 2002-2018



Data sources: EPINet® 2002-2018; Massachusetts Sharps Injury Surveillance System 2002-2018.

Table 1. Comparison of annual sharps injury rates for EPINet and MSISS, 2018

			EPINet	MSISS (acute care only)
Average sharps injury rate			29.7 per Avg Daily Census	25.1 per 100 occupied beds
Rates by hospital characteristic:	Teaching Status:	Teaching	30.7	34.7
		Non-Teaching	26.6	16.2
	Size:	Small (<100 beds)	34.3	20.7
		Medium (100-300 beds)	20.7	28.8
		Large (>300 beds)	35.9	31.8
Number of hospitals included			34	69
Total number of injuries			1,189	2,861

Table 1 provides information on the number of injuries reported to each surveillance system in 2018 as well as rates by various hospital characteristics.

In most surveillance years, as in 2018, nurses (RNs/LPNs) sustained the largest share of injuries hospital wide (34.8% EPINet, 36.7% MSISS). Within in-patient and exam rooms, nurses sustained almost half of all sharps injuries (45.6% EPINet, 46.3% MSISS).

Largest percentage of all sharps injuries occurred in the OR with greatest numbers among physicians.

In 2018, the largest percentage of all sharps injuries by department occurred in the operating room (OR) (44.3% EPINet, 35.1% MSISS). Within the OR, physicians experienced the greatest numbers of injuries (52.8% EPINet, 58.0% MSISS). It is important to note that in the OR, a large proportion of injuries are sustained by workers other than the original user of the device (25.5% EPINet, 24.6% MSISS). This indicates that risk of injury applies to not only clinical users of devices, but also to those who come into contact with original users. The risk is further extended during device disposal. These injuries impact critical professional groups, including surgical technicians, environmental services, laundry and sterile processing personnel.

More than half of sharps injuries involve devices lacking SIP features leading to a significant opportunity to implement change and reduce injuries.

Although the requirement for using devices with sharps injury prevention features has always been part of the OSHA BBP standard, that requirement was made explicit in 2001 with the revision of the standard (OSHA, 2001). However, 2018 data show that a majority of sharps injuries involve devices lacking sharps injury prevention features (58.9% EPINet, 51.0% MSISS). These data indicate that there is a significant opportunity for implementing changes that can lead to injury reduction.

Clearly, there remains more room for improvement than what we have witnessed in years past. Healthcare is increasingly provided outside of hospitals, in venues such as ambulatory surgery centers, practitioners' offices and clinics, patient homes, rehabilitation centers, long-term care facilities, urgent care, and pharmacies. This shift is expected to continue well into the future. As such, efforts to improve sharps injury surveillance and prevention need to be designed and implemented across a variety of venues.

Recommendations

Several actions have been identified as key to further progress in reducing the risk of sharps injuries among healthcare workers. The recommendations for addressing these areas are presented as facility-based prevention measures based on clinical specialty and/or facility type, and policy-based recommendations aimed at facilities, professional associations, unions, departments of health and other state agencies, and federal agencies. These recommendations apply to the hospital setting and to all other healthcare settings, including ambulatory care, long term care, and home care.

Prevention Measures Based on Most Frequently Reported Device or Procedure-Related Injuries

The examples below are some of the most frequent circumstances in which injuries occur. In order to determine the risks in your setting, use the exposure assessment contained in your Exposure Control Plan and the data on your Sharps Injury Log. A robust surveillance system is critical for quality improvement.

Occupational health and safety professionals utilize a system of prevention measures known as the Hierarchy of Controls, which begins with implementing the most protective measures first (NIOSH, 2015). The traditional hierarchy has been modified here to include an additional level at the top of the hierarchy. The institutional culture of safety has one of the biggest influences on the rest of the program as a whole. Therefore, we created “institutional controls” as a new element to address the importance of full-facility engagement in a sharps injury prevention program. As with the traditional hierarchy of controls, this modified hierarchy then turns to controls that eliminate the hazard. If it is not possible to eliminate the hazard, then measures to provide a substitution for the hazard must be implemented. If neither of these are feasible, then engineering controls to remove or reduce the hazardous condition, followed by work practice and administrative controls to change the process must be implemented. If the hazard still exists after these other controls have been implemented, then personal protective equipment (PPE) must be provided to workers to protect them from the hazard. All of these come under an umbrella of institutional controls, designed to foster a culture whereby facility-wide safety measures are practiced and built into the business practice.

The chart below lists recommendations to assist in identifying preventive measures for specific types of devices and common work practices.



Table 2. Recommendations for Preventing Sharps Injuries

Device and/or Work Practice	Recommendation	Hierarchy of Controls per OSHA BPS*
Disposable, Hypodermic Needle	Include devices with SIP features in pre-packaged kits and trays.	IC
	Convert to devices with SIP features.	EC
	Select the right gauge and length needle to avoid injuring other hand and causing a possible exposure to the patient.	WP/AC
Suture Needle	Evaluate alternative methods of skin closure where appropriate (e.g., adhesives, staples, zipper closures, etc.) to reduce the use of suture needles.	E; EC
	Evaluate the use of blunt-tip suture needles for internal fascia, vessel closure.	E; EC

Device and/or Work Practice	Recommendation	Hierarchy of Controls per OSHA BPS*
Blood & Specimen Collection	Increase the use of devices with SIP features.	EC
	Increase use of blunt and/or needleless blood transfer devices.	EC; WP
Scalpel Blade	Increase the use of scalpels with retracting blades/handles.	EC
Hand-to-Hand Passing	Implement no hands passing to protect surgical teams.	E; WP
	Use neutral zones.	WP/AC
Double Gloving	Use two sets of gloves during invasive surgical procedures. Ideally, the inner gloves would be a different color than the outer gloves to easily identify any tears.	PPE
Activation of SIP Feature	Increase frontline employee involvement in device evaluation and selection.	IC; EC; WP/AC
	Increase training and provide opportunities for hands-on training to improve competence with SIP feature activation immediately following use.	IC; WP/AC
Disposal	Improve placement of sharps containers, so that the containers are as close to the point of use as possible.	IC; WP/AC
	Increase compliance with immediate disposal of devices.	WP/AC

* BPS = Bloodborne Pathogens Standard

IC = Institutional Controls
E = Elimination

S = Substitution
EC = Engineering Controls

WP/AC = Work Practice and Administrative Controls
PPE = Personal Protective Equipment

POLICY-BASED RECOMMENDATIONS

Data-driven policies in any organization ensures compliance with regulations and enhances pro-active change.

Healthcare Facilities

It is recommended that:

1. Leadership, management, and frontline staff work cooperatively to select devices with sharps injury prevention (SIP) features and develop sharps safety standards and practices that are consistently implemented and followed in all clinical environments.
2. There is annual documentation for any opt-out policies that detail the rationale for not using a safety engineered device (i.e., compromises patient or worker safety, or clinical outcomes) or intervention, as well as any alternate procedures or practices to mitigate sharps injury risk.
3. There is an annual review of the Sharps Injury Log (without personal identifiers) that is shared with all relevant personnel and a review of current devices and procedures is completed, including a review of new commercially-available, safer devices. Facilities should identify areas for continuous quality improvement and ongoing compliance based on data in the Sharps Injury Log, and should share a summary of the data from the Sharps Injury Log with all personnel.
4. There is consistent involvement of frontline healthcare workers in the selection and evaluation of devices with SIP, and regular and systematic assessment of devices currently in use. Employers need to weigh the effectiveness of different SIP features for particular applications. At a time when the pressure to reduce healthcare costs is intense, it is important to keep user-oriented feedback at the forefront of device selection.

5. Feedback from frontline staff is provided to manufacturers, kit packers, and distributors to provide pre-packaged surgical and procedure kits that include devices with SIP features.
6. Training and education are provided on an annual basis for all potentially exposed workers on the appropriate use and disposal of devices. Such training provides a forum for addressing questions and issues that arise as new devices are introduced.

Professional Associations, Standards Setting Organizations, and Manufacturers

It is recommended that:

1. Professional groups and manufacturers collaborate to determine the gaps in the types and availability of devices with SIP features and to encourage the use of sharps injury prevention devices and work practices for appropriate applications.
2. Professional organizations and medical device, instrument and PPE manufacturers and distributors collaborate to make sharps injury prevention a priority and ensure that appropriate devices and educational and training materials, targeted for workers in all settings, are available.
3. Professional organizations partner with device manufacturers to assess and prioritize device needs for specific clinical applications, monitor progress in closing existing gaps relative to SIP technology in the market, and identify future needs.
4. Organizations representing healthcare workers educate members about the legal obligation of employers to include frontline workers in the evaluation and selection of devices with SIP features. Members need to be encouraged to participate in this process.
5. Professional educators, manufacturers and employee representatives collaborate to develop training strategies that can be widely applied when new devices are introduced so that frontline healthcare workers know how to safely use and dispose of them.
6. Innovative educational tools are developed using a variety of media and settings, including hands-on device “labs” for users to practice beyond initial training.
7. Frontline healthcare personnel and manufacturers drive continued innovation to address gaps in devices and move towards devices with SIP features that are more passive in design. Specific areas include nuclear medicine; dentistry and home care. Specific devices include longer-length needles used for bone marrow, bariatric, biopsy, spinal, epidural, and acupuncture procedures; needle extenders for cervical injections; ophthalmic blades; and arterial-line catheters.
8. Manufacturers and distributors encourage greater innovation and more variety, especially for surgical devices, given the high risk of exposure and relatively low adoption of devices with SIP features in this setting. Non-needle-based solutions, which eliminate sharps injury risk altogether should be widely available for the delivery of medications and for skin and wound closures.

Regulatory Agencies and Accrediting Organizations

It is recommended that:

1. OSHA place a greater emphasis on compliance with the Bloodborne Pathogens Standard in healthcare by evaluating the overall adoption of devices with SIP features to eliminate or minimize exposure risks. In instances where overall adoption rates are low, investigation (i.e., targeted enforcement) into the contributing factors should be completed with potential solutions provided and enforcement action as indicated.

2. OSHA promote regional emphasis programs that focus on enforcement of the BPS and working with other relevant groups (such as accrediting, and licensing bodies, and healthcare and workers' compensation insurers) enhance compliance incentives for employers through the referral process between agencies.
 3. Health and Human Services agencies such as CDC/Division of Health Quality Promotion (DHQP) and CDC/NIOSH and other government and non-governmental agencies and professional organizations support epidemiological research that evaluates risks to workers in a wide range of non-hospital settings (e.g., NIOSH's National Occupational Research Agenda) (NIOSH, 2019).
 4. Health and Human Services agencies such as CDC/DHQP and CDC/NIOSH and other government and non-governmental agencies and professional organizations support epidemiological research to assess whether, and to what extent, the requirement to include healthcare workers in the device selection process is being met in facilities across the country, and the manner in which this is being done. This research will provide the basis for developing a model program for frontline worker participation in device evaluation and selection.
 5. Health and Human Services agencies such as CDC and NIOSH and other government and non-governmental agencies and professional organizations partner with medical, nursing, and allied health schools and accrediting bodies to develop standardized curricula on bloodborne pathogen exposure prevention and the selection and use of devices with sharps injury prevention features. Such training is an essential part of the education of all healthcare professionals throughout their careers.
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UNIQUE CHALLENGES IN SPECIALTY SETTINGS

Non-Hospital, Ambulatory Care, Clinics, and Offices

Healthcare workers in non-hospital settings account for about 68% of the U.S. healthcare workforce. Approximately half of the healthcare in the U.S. is provided by healthcare personnel and personal care aides (BLS, 2020b), many of whom are working outside of the traditional hospital setting.

Use of SIP devices in non-hospital settings (e.g., home healthcare, long-term care, practitioners' offices and clinics, pharmacies, emergency response) has generally been much less consistent than in hospitals.

"Non-hospital" is a broad term that encompasses a wide range of care settings; this makes generalizations about risk somewhat tenuous. Valid and reliable sharps injury data from non-hospital settings are limited; a critical need exists for data that specifically target these different environments, each of which has a unique risk profile.

Many procedures involve needles or other sharps including phlebotomy, intramuscular or subcutaneous injections, and catheter and IV insertions. Injuries commonly occur during activation of SIP features or improper disposal of devices.

Since non-hospital settings do not typically have the benefit of dedicated occupational safety and health professionals, it is critical to rely on shared resources for compliance initiatives, such as device evaluation, post-exposure treatment and training. It may be possible to partner with a local hospital for assistance with occupational health. For example, an exposure/incident in a non-hospital setting can have a catastrophic impact on staffing and patient care. As such, it is critical that these settings establish a formal relationship with a provider who is well equipped to handle exposure incidents.

Surgical Procedure Rooms

Surgical procedure rooms, operating rooms and other surgical settings are high risk environments due to the large quantities of blood and body fluids, prolonged exposures to open surgical sites, frequent handling of sharp instruments, and the necessity for coordination among team members while passing sharp surgical instruments.

Data from EPINet and MSISS shows that most of the injuries sustained by surgeons and surgical residents occurred during use, while the sharps injuries to other operating room staff, including nurses, technologists, and sterile processing technicians occurred during passing, disassembling, reprocessing and disposal.

Epidemiological data continue to demonstrate that almost half of all sharps injuries occur in surgical settings. This includes traditional operating rooms, ambulatory surgery centers, physician offices, and interventional radiology suites.

Sharps injury prevention measures (e.g., blunt tip suture needles, skin closure alternatives, double gloving, use of neutral zones) are recommended by the American College of Surgeons (ACS), the Association of periOperative Registered Nurses (AORN), the American Academy of Orthopedic Surgeons (AAOS) and the Association of Surgical Technologists (AST). Despite being recommended by professional organizations, these prevention measures are currently underutilized (ISC, 2018; MDPH, 2020).

Users should be able to choose between several comparable and effective devices with sharps injury prevention features (e.g., scalpels) and options for personal protective equipment (e.g., gloves, goggles) to meet their individual work practices, body sizes, and comfort. The decision to use devices lacking sharps injury prevention features and other interventions should not be the sole choice of an individual practitioner, as many injuries are sustained by other members of the team who are not the original users of devices.

Dentistry

Dentistry is a very high risk clinical environment for injury. Most dental providers use multi-use, double-ended sharp instruments throughout the work shift in a difficult to access area – the oral cavity.

Dental anesthetic needles account for a significant percentage of injuries. This is due to several factors: manually palpating the intraoral injection site; retracting tissue with fingers; inserting the syringe into the mouth and delivering an injection of anesthetic. Dental anesthetic syringes are multiple uses and a patient often receives multiple injections during the course of a single procedure. The needle cap is often removed and replaced multiple times and can result in a needlestick in the process of recapping.

Ergonomics can play a role in dental sharps injuries. Some equipment requires personnel to reach across sharp devices, such as a dental handpiece containing a sharp bur, to reach the dental hand instruments. In addition, few devices with SIP features are available to dental healthcare personnel and when devices have been available, they have not been widely accepted.

Dental practices need to increase the use of scalpels, hypodermic needles/syringes and other devices with SIP features, avoid recapping, and proper handling and/or disposal of used contaminated sharps. If a dental facility does not have access to onsite occupational health services, they should identify a local healthcare organization to provide appropriate testing, counseling and follow up.

Clinical Laboratories

The risks in clinical and diagnostic laboratories are unique and can be potentially high risk. Since laboratorians are responsible for processing and testing blood and other specimens, there are many processes which can result in a needlestick or sharp injury or other type of blood and body fluid exposure. Clinical labs that are not part of larger facilities, such as hospitals, do not typically have immediate access to safety and health and/or infection prevention practitioners/departments.

In laboratories, many injuries are from the transfer of blood and urine specimens, blades used for sectioning (e.g., microtomes), and broken glass. Glass specimen tubes are often still used. According to the American Society of Microbiology, procedural risks for sharps include manipulation of primary specimens and overfilled sharps containers. They offer guidance in *Interim Clinical Laboratory Guideline for Biological Safety*.

Honoring the
20th Anniversary
of the Needlestick
Safety and
Prevention Act



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CONCLUSION

The goal of this consensus statement is to re-invigorate the healthcare community in the efforts taken to enhance the safety and health of this essential occupational group. All healthcare facilities are encouraged to review their surveillance data to identify areas of focus when developing prevention measures, and to involve front-line staff in those activities. The outline of the requirements of the OSHA Bloodborne Pathogens Standard and the policy-based recommendations provide useful information as healthcare facilities review and update their sharps injury surveillance and prevention programs. Healthcare workers represent a critical national resource that must be protected from harm while they care for others. Healthcare worker safety is a crucial component of patient safety, and of the overall safety and quality of the healthcare environment.

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APPENDIX:

Requirements of the OSHA Bloodborne Pathogens Standard

All employers with employees with potential exposure to blood or other potentially infectious materials (e.g., vaginal secretions, cerebrospinal fluid, pleural fluid, bloody urine, bloody saliva, etc.) must comply with the requirements set forth in the OSHA Bloodborne Pathogens Standard (29 CFR 1910.1030). As such, each facility and specialty type mentioned in this document must adhere to the following baseline/minimum controls. This list is not exhaustive; therefore, it is the employer’s responsibility to adhere to the standard in its entirety based on its own employee risk assessment.

Table 3. Requirements of the OSHA Bloodborne Pathogens Standard

Paragraph	Requirement	Compliance Examples
C	Establish an Exposure Control Plan which includes a risk determination to be reviewed and updated annually and when/ if processes change.	Plan must be “written” and available to all employees on all shifts. It can include relevant meeting minutes, device evaluations, and SIP device lists.
	Include frontline employees in the identification, evaluation, and selection of effective engineering and work practice controls	Evaluation includes the consideration of commercially available and effective safer devices. Selection cannot be based on price and/or supply (contract) decisions only.
D	Identify and use engineering controls including sharps with engineered sharps injury protections (SESIPS) (or devices with sharps injury prevention {SIP} features).	This includes not only the availability and use of these devices, but the activation of the SIP mechanism.
	Implement Universal Precautions.	Assume that all blood and other potentially infectious material (OPIM) poses a risk of illness or infection.
	Make handwashing facilities available.	This includes sinks with soap and running water which is more protective than the use of alcohol-based hand rubs.
	Have puncture-resistant, leakproof, color-coded sharps containers.	Sharp devices must be safely disposed of immediately following use in a sharps container that is ideally within safe arm’s reach from use.

Paragraph	Requirement	Compliance Examples
	Identify and ensure use of safe work practices.	Including activation of SIP features, safe disposal, neutral zone (surgery), handwashing, and more. Work practices are enhanced by regular training and education, as well as employee involvement in device selection.
	Make personal protective equipment (PPE) available and make its use mandatory.	This includes the availability (where and when it is needed) and use (compliance, safe donning and doffing) of gloves, gowns, eye protection and respiratory protection. PPE is the method of control in the hierarchy of controls that should be implemented after all others have been exhausted (e.g., elimination/substitution, engineering controls, administrative controls, and work practice controls). For that reason, after all other controls are in place and exposure is still possible, PPE must be used.
E	HIV and HBV Research Laboratories and Production Facilities	There are unique challenges in laboratory settings which are addressed in the Recommendations Section.
F	Make Hepatitis B Virus (HBV) vaccination available at no cost to all employees with occupational exposure to blood or OPIM.	HBV vaccination is to be provided at no cost at a reasonable time and place in accordance with the U.S. Public Health Service guidance prior to placement in a job.
	Conduct a post-exposure (incident/injury) evaluation and follow-up including documentation/recordkeeping of that injury/exposure.	This includes documenting that exposure in the OSHA 300 and Sharps Injury Log. Records must be kept in accordance with 29 CFR 1910.1020. Follow-up for exposure incidents must be done at no cost to the employee.
G	Use labels and signs to communicate hazards.	Warning labels (biohazard sign and color-coded red/red-orange) need to be on containers of regulated waste, sharps containers, refrigerators/freezers, specimen containers, soiled linen, and more to alert any employee that there is a potential bloodborne pathogen hazard. Proper labeling will alert down-stream workers as well as those at the point of use.
	Information and Training	Training prior to initial assignment and annually thereafter.
H	Recordkeeping and Medical Records	A Sharps Injury Log must be kept that includes (at a minimum) information about the device causing the injury (type, brand), department where incident occurred, explanation of how injury occurred.
		Medical records can include those for vaccination status, post-exposure, work-related injuries/illnesses, and more.
		Training and education records must be kept including information about dates of training, summary of session, qualifications of trainers, and job titles of persons attending training.