

## Sharp Focus

### *How health care workers can prevent exposure to bloodborne pathogens*

It's a sticky subject that some don't want to talk about. But bloodborne pathogens continue to represent a serious threat to hospital and medical facility personnel, and it's got many in the health care profession—especially those at risk of getting infected—seeing red.

Consider that the Centers for Disease Control and Prevention estimates that 5.6 million workers in the health care industry and related occupations are at risk of occupational exposure to bloodborne pathogens (BBPs), including hepatitis B and C, HIV, syphilis, cryptococcosis, malaria, and more than 14 others.<sup>1</sup>

Transmission of these pathogens in health care settings typically occurs via needlestick and sharps injuries; accidental splashes into the eyes, mouth, or nose; and direct introduction into abrasions, scratches, burns, or skin lesions.

#### Setting a new standard

To help protect workers, the Occupational Safety and Health Administration (OSHA) issued the Bloodborne Pathogens Standard in 1991, which it updated in 2001 ([http://www.osha.gov/OshDoc/data\\_BloodborneFacts/bbfact01.pdf](http://www.osha.gov/OshDoc/data_BloodborneFacts/bbfact01.pdf)). The standard requires employers to do the following:

### **Needlesticks and other sharps injuries most often occur in the operating room/recovery area.**

- Establish an exposure control plan
- Update the plan annually to reflect changes in tasks, positions, and procedures that impact occupational exposure
- Implement the use of universal precautions
- Work with nonmanagerial employees to identify and employ engineering controls (sharps with built-in safety features or needleless devices that remove or reduce BBP hazards)
- Identify and ensure the use of work practice controls that minimize the possibility of exposure
- Provide personal protective equipment (PPE) such as gowns, masks, and gloves
- Make hepatitis B vaccines available to all who are at risk
- Enable postexposure evaluations



Personal protective equipment helps protect workers from bloodborne pathogens.

and follow-ups to workers who are exposed

- Use signage and labels to warn of hazards
- Provide proper training and information to workers
- Maintain worker training and medical records, including a sharps injury log

However, while these safety measures have helped to reduce the incidence of BBP exposure, many health care organizations are not properly abiding by all the included requirements, according to Dionne Williams, senior industrial hygienist with OSHA's Office of Health Enforcement.

### Best-laid plans

OSHA is in the catbird seat when it comes to identifying BBP-related gaps and problems in hospitals and clinics. The agency administers policies, directives, and programs used by the OSHA Field Offices to conduct inspections in hospitals and other medical facilities. Serious violations of the OSHA regulations can result in fines of up to \$7,000.

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**—Dionne Williams, senior industrial hygienist with OSHA's Office of Health Enforcement**

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## Proper Disposal of Sharps

When it comes to contaminated sharps, OSHA requires employers to do the following:

- Dispose of them following use immediately or as soon as possible.
- Never shear or break them. Bending, recapping, or removing needles is allowed only if no feasible alternative exists or if such actions are required. If required, a mechanical device or one-handed technique must be used.
- Use proper sharps disposal containers that meet the following criteria:
  - Puncture-resistant and closable
  - Leakproof on the sides
  - Kept upright to prevent spillage
  - Appropriately color-coded red or labeled to communicate the inherent hazard
  - Readily accessible and located as close as possible to the areas where sharps are used
  - Routinely replaced and not overfilled
  - Closed before being removed or replaced
  - Placed in a secondary closable container if leakage is possible

The penalties OSHA has issued to health care organizations over the past 10 years have frequently been due to lack of adequate exposure control plans. A good exposure control plan, according to OSHA, should determine what job classifications are most at risk of exposure, what types of tasks or procedures could potentially lead to exposures, and how the organization will evaluate any exposure incidents. It should also include all methods of compliance established.

The Joint Commission also addresses these needs in its Standard EC.01.01.01, which requires that hospitals plan activities to minimize risks in the environment of care.

“An exposure control plan is meant to be a living document. In other words, it's not just something employers write and place on a shelf. It's meant to be looked at on a regular basis and updated at least annually,” Williams says. See the sidebars above and on page 10 for tips on proper disposal of sharps and what to do if an exposure occurs.

### Protecting vulnerable workers

Another area of deficiency commonly spotted during OSHA inspections is failure to solicit input from nonmanagerial employees.

The Bloodborne Pathogens Standard is unique in that it is one of the only OSHA standards that require employers to involve nonmanagerial employees in the selection of engineering controls, particularly staff who direct patient care, such as nurses and attendants assisting in surgery.

Indeed, these workers comprise the groups most at risk for BBPs. Data from EPINet indicate that approximately 34% and 32% of BBP infections and sharps injuries happen to nurses and physicians, respectively.<sup>2</sup> Additionally, the National Surveillance System for Health Care Workers (NaSH) reports that the occupational groups of health care personnel most often exposed to blood/bodily fluids include nurses (42%), physicians (30%), technicians (15%), and housekeeping and maintenance personnel (3%).<sup>3</sup>

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### Consider the source

EPINet statistics show that needlesticks and other sharps injuries most often occur in the operating room/recovery area (36% of the time), patient room/ward (23%), and emergency department and intensive/critical care unit (17%). The six devices that account for nearly 80% of all percutaneous injuries, per NaSH data, are disposable syringes, suture needles, winged steel needles, scalpel blades, intravenous catheter stylets, and phlebotomy needles.<sup>4</sup>

To minimize risks of injury or exposure using these devices, OSHA recommends that health care organizations answer several questions: Where are the injuries occurring? What devices are causing the injuries? Are safer devices available to replace problematic ones? Do


employees need to be trained or retrained on how to use devices of choice? Are the employees given an opportunity to weigh in on the selection of devices?

In addition, implementing appropriate engineering controls is a must. Instead of using unprotected sharps, if safer devices are available for a particular procedure, employers are required to evaluate their implementation. If it's feasible to use safer devices, they must be used. But in selecting safer devices, employers also need to get input from the users.

OSHA also recommends that a medical organization institute a program that persuades employees to immediately report any injuries sustained.

"The benefit here is that it helps in early identification of the source and ensures that the person doesn't leave the facility before they're able to be tested," says Williams. "If the source is found to be negative, that employee may avoid having to take the serious medications used to prevent an infection."

OSHA encourages all health care workers to not be afraid to turn to the agency as a positive, supporting resource.

Agency officials point out that OSHA isn't here just to do inspections, and they are quick to add that they appreciate it when people call the 1-800-321-OSHA (6742) hotline with questions. "We're here to provide information and assistance that will help prevent people from getting sick and injured," says a senior OSHA official. 

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Engineering controls, like using safer devices, provide protection.

### What to Do if an Exposure Occurs

If you or a fellow health care worker is exposed to someone else's blood, follow these steps recommended by the Centers for Disease Control and Prevention:

1. Immediately following the exposure, do the following:
  - Use soap and water to wash needlesticks and cuts
  - Use water to flush out splashes to the mouth, skin, or nose
  - Irrigate eyes with clean water, sterile irrigants, or saline
  - Avoid using antiseptics or caustic agents such as bleach or squeezing the wound, as no scientific evidence demonstrates that these methods lower the risk of transmission of a bloodborne pathogen.
2. Report the exposure to the infection control, occupational health, or other department in charge of managing exposures.
  - Because postexposure treatment may be recommended and should be initiated as soon as possible, prompt reporting is very important.
  - Ask the person managing your incident about the potential risks of acquiring hepatitis B or C and HIV and the need for postexposure treatment.

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## References

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