

# Infection Control Resource

Vol. 2 No.3

Prevention Strategies for IC Practitioners and Professional Nurses

## In this issue

In this issue we look at the specific challenges and approaches to the successful implementation of the Needlestick Safety and Prevention Act in different clinical settings: long-term care and the intensive care unit. In the next issue we will address the problems with needlestick injuries prevention in the ER.

Ms. Bennett and Brown were responsible for implementing a sharps-injury prevention program in Life Care Centers of America's 215 nursing homes. Nursing and personal-care facilities have one of the highest rates of injury and illness, and monetary penalties for long-term facilities have been as much as three times that of hospitals. Our authors describe in detail the entire process including the preparatory, implementation, and evaluation phases and provide candid recommendations on how the process could have been improved.

Even though hospital data show injury rates declining, the proportion of percutaneous injuries specific to ICUs has remained between 5 and 8 percent. What makes percutaneous injuries in the ICU different from those in general patient care departments? ICU practices and the patients themselves account for some of the differences as well as some staff viewing their risks differently and not practicing sharps safety to its fullest potential. Ms. Beiningen identifies the risks inherent to the ICU and recommends prevention strategies to help reduce the risk of sharps-injuries.

Visit us online at  
[www.infectioncontrolresource.org](http://www.infectioncontrolresource.org)

## Advisory Board

**Gwen Beiningen, RN, MS, CIC**  
Infection Control Coordinator  
Sioux Valley Hospitals & Health Systems  
Sioux Falls, SD

**Gail Bennett, RN, MSN, CIC**  
Associate Executive Director,  
ICP Associates, Rome, GA

**Nancy Bjerke, RN, MPH, CIC**  
Infection Control Associates  
San Antonio, TX

**Barbara DeBaun, RN, MSN, CIC**  
Director, Infection Control  
California Pacific Medical Center, San Francisco, CA

**Elaine Flanagan, BSN, MSA, CIC**  
Manager Epidemiology  
Detroit Medical Center, Detroit, MI

**Susan Slavish, RN, BSN, MPH, CIC**  
Infection Control, Queen's Medical Center  
Honolulu, HI

**Barbara Soule, RN, MPH, CIC**  
Consultant, Joint Commission Resources  
Oakbrook, IL

## Implementation of the Needlestick Safety and Prevention Act in long-term care facilities

By Gail Bennett, RN, MSN, CIC and Ann Brown, RN

The long-term care arena has a long history of facing and mastering difficult challenges. In recent years, these have included implementing the Omnibus Budget Reconciliation Act (OBRA), proactively planning for and adapting to the Prospective Payment System (PPS), maintaining readiness for inspections by the Occupational Safety and Health Administration (OSHA),<sup>1</sup> and, more recently, implementing the Needlestick Safety and Prevention Act.

One might think that implementing a sharps-injury prevention program in long-term care would be relatively easy, since far fewer sharps are used in long-term care than in acute-care facilities. However, all components of the Needlestick Safety and Prevention Act apply to long-term care and had to be implemented with great detail. An additional challenge in many facilities is the fact that the infection-control professional (ICP), who frequently leads the implementation efforts for sharps safety, often has multiple job functions in addition to infection control. Coupled with a national nursing shortage and staffing issues throughout the long-term care industry, this makes it often difficult to provide patient care and to focus time on new initiatives and regulations. The need to implement a program such as sharps safety often requires scheduling changes and, sometimes, re-assignment of job functions within the system.

Although the challenges in long-term care facilities might be great, this article shows how Life Care Centers of America successfully implemented the Needlestick Safety and Prevention Act in 215 nursing homes.

### Injuries in long-term care facilities

Nursing and personal-care facilities have one of the highest rates of injury and illness among

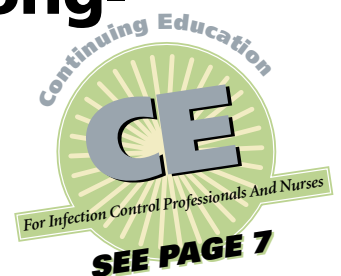
industries for which nationwide lost-workday injury and illness (LWDII) rates were calculated for calendar year 2000.<sup>2</sup> According to the Bureau of Labor Statistics, in that year nursing and personal-care facilities experienced an average LWDII rate of 7.9, despite the availability of feasible controls to address hazards within this industry. This is more than double the LWDII rate of 3.0 for private industry as a whole.

Data on needlestick and other sharps injuries specific to long-term care facilities is not readily available for review. However, the National Institute for Occupational Safety and Health (NIOSH) has published in "Safer Medical Device Implementation in Health Care Facilities: Sharing Lessons Learned" a couple of years of sharps injury data for one 500-bed long-term care facility accredited by the Joint Commission on Accreditation of Healthcare Organizations (JCAHO).<sup>3</sup> Injury rates are not given, but the type of injury, device used, and specific situations are (table 1).

During October 2000 through September 2001, OSHA performed 190 inspections of skilled-nursing facilities and gave 487 citations relating to bloodborne pathogens. The cumulative monetary penalties were nearly \$310,923. In comparison, during the same period there were 50 inspections of hospitals, with 139 citations and penalties of \$96,175.<sup>4</sup>

### Review of the legislation

The Needlestick Safety and Prevention Act became law in the United States on November 6, 2000. It authorized the Occupational Safety and Health Administration to require the use of sharps devices with engineered safety features. The effective date of the legislation was April 18, 2001.<sup>5</sup> The use of devices with engineered sharps



Continued on page 5

# Intensive care: Intensive sharps- injury risks

by Gwen Beiningen, RN, MS, CIC

**I**s the ICU different from other healthcare settings when it comes to sharps safety? All settings where needles and sharps are used for patient care have potential for percutaneous injury. Some settings might promote worker injury simply because of the nature of patient care—for example, in operating rooms, many different types of sharps unique to surgery are used. Another example is the emergency department, which manages the initial care of critically injured or ill individuals; the pace of this department and the tests, procedures, and other characteristics unique to it can present distinct risks for sharps injuries.

Similar to the emergency department, intensive care units (ICUs) continue the management of critically injured and ill patients. Although many invasive devices utilized in the ICU are similar to those in other general patient care areas, this setting is unique and has its related, unique risks.

## ICU needlestick injury data

The National Surveillance System for Health Care Workers (NaSH) Summary Report, covering June 1995 through July 1999, reported the following data from 23 hospitals:<sup>1</sup>

- 5,520 body fluid exposures
- 83% (4,569) percutaneous exposures
- 13% (range 0%–28%) events in ICU settings

The Exposure Prevention Information Network (EPINet) tracks voluntarily reported exposure incidents in hospitals. Figure A shows the aggregate rates of injury from reporting hospitals between 1997 and 2001.<sup>2–6</sup>

According to the average daily census, rates of injuries are decreasing. This decline in injury rates might be explained by various reasons. Most obviously, engineered sharps-safety devices have become the norm and the expected in healthcare. Workers depend on needles and other sharp objects having safety features; when this is not the case, workers question why, and they have now begun to demand safety devices.<sup>7</sup>

Another factor could be more focused education. Workers are informed about risks associated with sharps and the benefits of safety devices. When a new safety device is introduced, workers must be trained in its safe use

and disposal. Ongoing education reinforces awareness of job safety.

## Perils in the ICU environment

Even though hospital data show injury rates declining, the proportion of percutaneous injuries specific to ICUs has remained between 5 and 8 percent (figure B). What makes percutaneous injuries in the ICU different from those in general patient care departments?

ICU practices and the patients themselves might account for some of the differences. Staff might view their risks differently or might not practice sharps safety to its fullest potential. Procedures and treatments in the ICU can be distinct to the setting, and some sharp devices are specific to the ICU.

### Patient behavior

Although many ICU diagnoses and treatments are similar to those in other parts of the hospital, differences do exist in the ICU patient that place workers at risk for percutaneous injury. Patients with certain medical conditions such as head injuries or drug and alcohol detoxification can be intensely aggressive and combative. Working with sharp instruments around such patients is difficult, but restraining them, either physically or chemically, might be medically contraindicated or prohibited.

More workers might be needed to steady patients during procedures or treatments. These additional workers are key in controlling some patient behavior, but will also add more hands to the injury prevention equation. More workers involved in an uncontrolled situation (although needed to restrain the patient) can become injured in the commotion of the moment.

### Blood, blood everywhere!

Patients with diagnoses such as gastrointestinal bleeding or bleeding disorders can present with or develop massive exsanguination. Containing blood and body fluids can be challenging. These patients will have multiple tubes and devices to be maneuvered around. This added equipment increases the challenges of maneuvering safely. Care and caution must be exercised to assure both that tubes and devices are not dislodged and that worker injuries are avoided.

### Daily distractions

Staff attention to patient care is critical to successful patient outcomes. Many patient-care activities that the worker must be fully cognizant of are happening simultaneously. Along with attention to routine care and monitoring, workers are distracted from duties regularly and frequently: beepers beep; phones ring; pagers sound; alarms go off; medical staff, family members, and other workers make requests; and the list goes on. When interruptions are constant and focus is lost, accidents are more likely.

### The pace

The most obvious difference in ICU departments is the fast pace required to provide intensive care. Although nearly every department in healthcare works at a fast pace, the ICU is faster.

Throughout healthcare, patients require immediate intervention for stabilization. In the ICU, this need for immediate intervention happens not only daily but multiple times each day. After all, it is called intensive care for a reason. Workers must remember multiple patient-care tasks at the same time as providing a safe environment for other workers and themselves. Be alert. Be careful. And anticipate!

### Multiple personnel in tight places

Another obvious difference in the intensive-care setting is that a nurse is assigned to one or two patients only, as opposed to several patients as is done in other hospital departments. Numerous workers provide direct care and interventions for an individual patient; this includes medical staff, respiratory technologists, radiology technicians, physical therapists, surgery personnel, etc. More hands involved means that activities multiply, thus amplifying the danger.

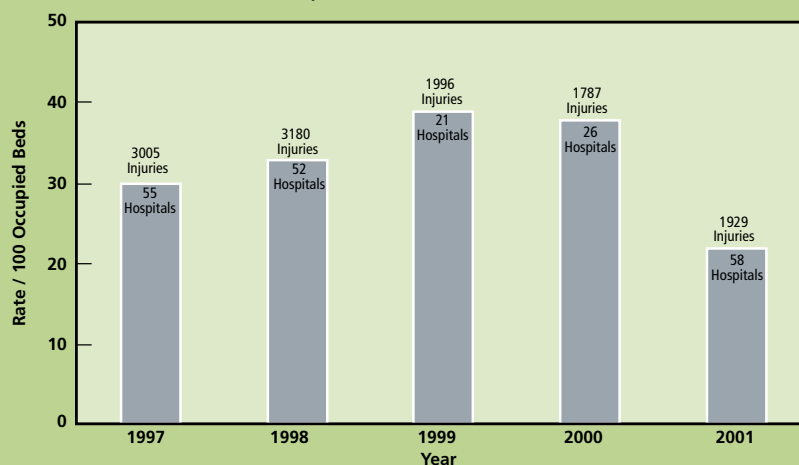
Handling sharps safely when others are nearby is critical. Be certain to account for all used sharps and dispose of them immediately. Sharps that are not discarded into proper containers immediately pose a risk to others. Think of the person who will next handle the sharp: needles thrown in the trash, or scalpels left on a counter, will be encountered by housekeeping or maintenance staff. Sharps safety is essential for you and your co-workers.

## ICU staff

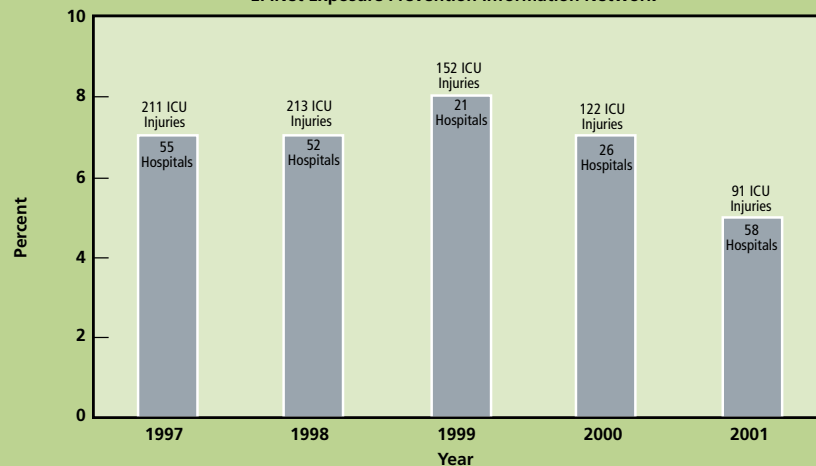
### Education

Education is critical. Why then is education in the fight against sharps injuries not as effective as hoped? Behavior can be very difficult to change. We are creatures of habit, and habits die hard. Unless we consciously and repeatedly try to change unsafe practices, we fall back on our habitual behaviors. Safe work practices are an expectation. Workers must handle sharps cautiously. They must trigger the safety feature on all sharps. They must dis-

**Fig. A Aggregate Percutaneous Injury Rate**  
EPINet Exposure Prevention Information Network



**Fig. B Percent Percutaneous Injuries Occurring in ICU Settings**  
EPINet Exposure Prevention Information Network



pose of sharps immediately and properly.

Evaluation of work practices helps one recognize unsafe practice that should be changed. Evaluating specific safe work practices can involve direct or covert observation and monitoring of practices by other workers, holding peer or annual performance reviews, and self-evaluation with questionnaires and focused education.

Inability or unwillingness to modify unsafe practices presents ongoing risk to the worker and others. Personnel with unsafe work habits might have to be reassigned or even asked to leave. When conversing with ICU staff, I hear, "We're different here in ICU. Some of these practices just don't work here! I won't be involved in an accident." In other words, "I'm invincible!" Each department is different; but when it comes to sharps safety, every department is the same. Safety cannot be an afterthought; it must be a forethought.

#### *Our aging society*

As is true of all healthcare areas, the average worker is older than in years past. Workers

might not see as well as they used to and wear corrective lenses; these lenses can pose a challenge in peripheral vision or judging distances. Concentration is even more important to see where sharps are going.

#### **ICU procedures and treatments**

##### *Point-of-care testing*

Modern technology allows diagnostic laboratory testing to be performed at or near the bedside. This point-of-care testing provides faster turnaround times and thus faster therapeutic decision-making, improving patient outcomes. This technology, beneficial for the patient, could conceivably adversely affect workers.

In years past, laboratory staff came to the ICU, drew the specimen, and returned to the laboratory to complete testing. Now, ICU staff are often designated to collect specimens, moving the risk of exposure from laboratory personnel to ICU workers. As current healthcare practices require more testing, more ICU workers collect and handle patients' body fluids. More needles for specimen collection

mean more opportunity for injury.

Many safer devices are now available for drawing blood via various routes: finger-stick devices automatically retract the lancet after the puncture, unbreakable plastic micro blood-collection tubes eliminate contaminated-glass injuries. Other products allow blood to be drawn from intravenous ports without using needles; for example, Kendall manufactures the Monoject Monolett safety lancet and Samplette micro blood collection products for finger sticks, and the Angel Wing Luer lock set for IV-line blood collection.

#### *Intensive invasive procedures*

Some invasive procedures not provided in other wards can be done in the ICU: thoracentesis, bronchoscopy, open-chest procedures, acute dialysis, etc. These are often urgent procedures, forcing workers to move quickly with sharp instruments.

Kits are available for many of these procedures. When sharps safety devices are included in these kits, the movement toward a safer ICU work environment is realized. When engineered safety devices are not included, the hospital is left to determine how to provide safe products to be used with the kits. Manufacturers are becoming more aware of this need, and are working toward user safety.

#### **ICU sharps**

Some needles or sharps are unique to critical-care settings. Pulmonary artery catheters, arterial lines, femoral lines, etc. are generally used with the more critically ill patients. Given the intensity and urgency of patient care and the unpredictable nature of the ICU setting, it is clear that devices engineered to protect needle tips play a crucial role in needlestick prevention.

Although some treatments and therapies involving needles are not exclusive to the ICU, they are used more frequently, with more devices per patient—for example, drawing blood specimens. In the ICU, most medications are administered intravenously; thus, needle devices such as peripheral IV lines, central IV lines, and sutures to secure these lines are utilized with greater frequency per patient.

A practice that deserves candid discussion is carrying syringes of medications in clothing pockets. Having emergency or frequently used medications in the pocket reduces critical time for administration; however, for both infection prevention and sharps safety, this is a dangerous practice. It is especially dangerous when medications are titrated and when portions of IV medication are dispensed from one syringe. These syringes should not be placed in pockets, especially once a dose has been administered.

#### *Primary prevention*

Given the fast pace, urgency of care, and unpredictability of ICU patients' health, sharps safety is essential. NAPPSI places greater emphasis and demand on primary



**MONOJET® Monoletter Safety Lancet**

prevention over secondary prevention. Primary sharps-injury prevention is defined as needless products: no needle, no injury.<sup>8</sup>

Although not all devices are needless, manufacturers are moving in this direction. For example, recent trends include more use of non-invasive hemodynamic monitoring. New advancements include transcutaneous testing for pO<sub>2</sub>, blood glucose, and bilirubin levels. Breath tests, such as those for detecting *Helicobacter pylori*, are available. These advances remove the need for blood sampling or for some intravascular lines.

Some central intravascular devices, drains, and tubing are usually anchored with sutures, but sutureless products are becoming more available. Eliminating the suture needle from stabilizing lines and tubing eliminates a source of injury.<sup>9</sup>

Transdermal patches, inhalants, and needless injectors also allow medication to penetrate the skin. Nearly every manufacturer of IV administration systems has products that minimize the need for needle entry. Better yet, some have made needle entry an impossibility!

### Secondary prevention

Secondary prevention devices have a safety feature triggered either passively or actively after use. Syringes with needles that automatically retract after medication administration are considered passive devices. The safety feature activation is a normal part of product use and is triggered by simple use of the product.

Active devices require the safety feature to be specifically activated by the user, for example by pushing a button or sliding a cap or sheath to cover the needle tip. You can visit the NAPPSI Web site at <http://www.nappsi.org/safety.shtml> to find a list of primary and secondary prevention injection equipment.

### Sharps disposal

Disposal of sharps is the final step in eliminating sharps from the work environment. Sharps-disposal boxes should be close to the point of care to avoid transport of used needles. Placement of the sharps box is decided by the unit and is based on preference, user friendliness, and history of sharps injuries related to disposal. Sharps-disposal containers should have the following characteristics:<sup>10</sup>

- Containers should remain functional during their entire use: durable, closable, leak-resistant on their sides and bottoms, and puncture-resistant until final disposal. Individual containers should have adequate volume and safe access to the disposal opening (inlet).
- Containers should be accessible to workers who use, maintain, or dispose of sharp devices. A sufficient number should be provided. Containers should be conveniently placed and (if necessary) portable within the workplace.
- Containers should be plainly visible to the workers who use them. Workers should be able to see proper warning labels, color coding, and the degree to which the container is full.
- Containers should be accommodating or convenient for the user and the facility, and they should be environmentally sound (e.g., free of heavy metals and composed of recycled materials). Accommodation also includes ease of storage and assembly, and simplicity of operation.

In the ICU, high volumes of sharps are necessary in delivering patient care. Given the increased waste that accompanies sharps safety devices, manufacturers are producing containers that are larger and more portable (e.g., with wheels for transport), have larger inlets to accommodate larger devices, and are ergonomically friendly. Kendall's Sharpscart is one example of this new-generation container.

New-generation sharps boxes can help engineer out injuries related to sharps disposal. Some boxes are designed so that simply the weight of the needle and syringe activates the "mailbox drop" opening, and the device falls into the box, isolated from the work environment. When the box fills to a designated level, its design prevents further use; more sharps cannot be stuffed into the box because it will not open.

Larger sharps containers have become popular. With the advancement of safety needles, sharps used in patient care have become larger and more bulky, resulting in additional waste volume. Standard boxes fill up more quickly. Larger boxes allow workers to empty boxes less often and thus to handle boxes less frequently. Of course, larger boxes are also appropriate where high numbers of sharps are used.

It is also important to emphasize that the mattress is not a pin cushion. The needle opens the integrity of the mattress, and patient safety, worker safety, and mattress integrity are compromised. More than once, mattresses have been destroyed from this practice. Sharps boxes placed near the point of use can discourage workers from putting needles into mattresses.

## Summary

The ICU is called an intensive care unit for a reason. Some ICU factors can not be changed. Certain actions or procedures are simply a part of the "perils of the ICU." Safer sharps practices must be followed wherever possible. Purchase of needles and sharps with safety features that cannot be bypassed is fundamental. All workers are accountable for keeping the ICU environment as safe as possible.

## References

1. National Surveillance System for Health Care Workers (NaSH). Summary report for data collected from June 1995 through July 1999. CDC Hospital Infections Program.
2. EPINet Exposure Prevention Information Network. Uniform Needlestick and Sharp Object Injury Report 55 Hospitals, 1997. Available from <http://www.med.virginia.edu/medcntr/centers/epinet/soi97.html> Accessed 28 October 2003.
3. EPINet Exposure Prevention Information Network. Uniform Needlestick and Sharp Object Injury Report 52 Hospitals, 1998. Available from <http://www.med.virginia.edu/medcntr/centers/epinet/soi98.html> Accessed 28 October 2003.
4. EPINet Exposure Prevention Information Network. Uniform Needlestick and Sharp Object Injury Report 21 Hospitals, 1999. Available from <http://www.med.virginia.edu/medcntr/centers/epinet/soi99.html> Accessed 28 October 2003.
5. EPINet Exposure Prevention Information Network. Uniform Needlestick and Sharp Object Injury Report 26 Hospitals, 2000. Available from <http://www.med.virginia.edu/medcntr/centers/epinet/soi00.html> Accessed 28 October 2003.
6. EPINet Exposure Prevention Information Network. Uniform Needlestick and Sharp Object Injury Report 58 Hospitals, 2001. Available from <http://www.med.virginia.edu/medcntr/centers/epinet/soi01.html> Accessed 28 October 2003.
7. Perry J, Parker G, Jagger J. EPINet Report: 2001 Percutaneous Injury Rates. *Advances in Exposure Prevention*. 2003;6(3):32-36.
8. National Alliance for the Primary Prevention of Sharps Injuries (NAPPSI). Available from <http://www.nappsi.org/safety.shtml> Accessed 28 October 2003.
9. Schears G, Yamamoto A. Eliminating suture needlesticks through primary prevention. *Associations Digest for NARI*. Winter 02/03. Available from <http://www.nappsi.org/nari.shtml>. Accessed 23 October 2003.
10. U.S. Department of Health and Human Services, Public Health Service, Centers for Disease Control and Prevention, National Institute for Occupational Safety and Health. Selecting, evaluating, and using sharps disposal containers. Atlanta, Georgia; 1998 (January). DHHS (NIOSH) publication No. 97-111. Available from <http://www.cdc.gov/niosh/pdfs/97-111.pdf> Accessed 23 October, 2003.



**Gwen Beiningen, RN, MS, CIC** fills three roles—Infection Control Coordinator, Infection Control Nurse, and Employee Health Nurse—at Sioux Valley Hospitals and Health System in Sioux Falls, South Dakota. She earned her BSN and her MS (with a focus in Education) from South Dakota State University. Ms. Beiningen is active in several professional associations, including APIC (Association for Professionals in Infection Control and Epidemiology) for whom she recently served as chair of the 2001 Annual Conference Committee.

*She earned her BSN and her MS (with a focus in Education) from South Dakota State University. Ms. Beiningen is active in several professional associations, including APIC (Association for Professionals in Infection Control and Epidemiology) for whom she recently served as chair of the 2001 Annual Conference Committee.*

**Implementation of the Needlestick Safety and Prevention Act in long-term care facilities — Continued**

injury protection was already required by a November, 1999 OSHA compliance directive regarding exposure to bloodborne pathogens.<sup>6</sup> In addition, the Needlestick Safety and Prevention Act required the following:

- exposure control plans that reflect how employers implement new developments in sharps-injury prevention technology and documentation of annual review
- definition of engineering controls to include devices with engineered sharps-injury protection as well as needless intravenous administration systems
- input by front-line, non-managerial healthcare workers at least annually into identification, evaluation, and selection of devices and other controls, with documentation in the exposure control plan
- a log that documents all injuries from contaminated sharps that penetrate the skin

OSHA also requires that the safety devices chosen be appropriate, commercially available in sufficient quantity, and effective.

**NIOSH recommendations for employers**

In November, 1999 NIOSH made recommendations to employers on preventing needlestick injuries in health care settings.<sup>7</sup> NIOSH summarized desirable characteristics of safety devices:

- The device is needless.
- The safety feature is an integral part of the device.
- The device preferably works passively (i.e., it requires no activation by the user). If user activation is necessary, the safety feature can be engaged with a single-handed technique and allows the worker's hands to remain behind the exposed sharp.
- The user can easily tell whether the safety feature is activated.
- The safety feature cannot be deactivated and remains protective through disposal.
- The device performs reliably.
- The device is easy to use and practical.
- The device is safe and effective for patient care.

NIOSH further stated that needlestick injury reduction can best be accomplished when improved engineering controls are incorporated into a comprehensive program involving workers that includes the following directives:

**Table 1: Types of sharps injuries**

Injury	Device Used	Situation	Additional information
laceration	suture needle	Injury occurred after suturing completed	
needlestick	needle in sharps container	After venipuncture, attempted to place top on sharps container lid when needle pricked finger	
needlestick	butterfly needle	While pulling needle out of vein, needle went into thumb	
needlestick	needle attached to inside of Vacutainer holder	During venipuncture, changing blood specimen tubes	
needlestick	clean needle	Stuck with clean needle over bloody glove during venipuncture	
needlestick	insulin syringe	While pulling shield over needle, turned away to listen to a resident who was talking loudly and pricked finger	Provider did not know how to perform second step to make syringe safe.
laceration	razor	Shaving resident	

- Analyze needlestick and other sharps-related injuries in your workplace to identify hazards and injury trends.
- Set priorities and prevention strategies by examining local and national information about risk factors for needlestick injuries and successful intervention efforts.
- Ensure that healthcare workers are properly trained in the safe use and disposal of needles.
- Modify work practices that pose a needlestick-injury hazard to make them safer.
- Promote safety awareness in the work environment.
- Establish procedures for and encourage the reporting and timely follow-up of all needlestick- and other sharps-related injuries.
- Evaluate the effectiveness of prevention efforts and provide feedback on performance.

Although these recommendations preceded the Needlestick Safety and Prevention Act, the steps have been used by many health-care facilities, and they helped to format the framework for preparation, implementation, and evaluation described below.

**Preparatory phase**

Life Care Centers of America (LCCA) is a large for-profit long-term care company based in Cleveland, Tennessee. Founded in 1976, Life Care Centers of America has grown to be one of the largest healthcare management companies in the USA, operating more than 260 nursing, subacute-care, rehabilitation, assisted-living, retirement, home-health, and Alzheimer-disease centers in 28 states.

LCCA implemented the Needlestick Safety and Prevention Act in each of their 215 long-term care facilities across the nation. In the preparatory phase, their standardization committee, consisting of frontline representa-

Figure 1



a locked cabinet until pick-up by the biomedical waste company

LCCA also announced that it would continue evaluating sharps containers that use hands-out technology with the lid stopping in the full position when it reaches maximum capacity.

The facilities will maintain their original evaluations, summaries, and LCCA standardization committee recommendations, including subsequent action that is taken. Each May the front-line associates will evaluate the effectiveness of all safer medical devices. The project will be directed, as it was this year, by clinical services and the standardization committee.

**Summary**

In general, LCCA's implementation of the Needlestick Safety and Prevention Act was accomplished in an organized and effective manner. The challenge of implementing new legislation during a nationwide nursing shortage and a general long-term care staffing shortage was difficult but—typical of many healthcare professionals—the staff came through even though the device trials and evaluations added to their workloads.

The greatest challenge in implementing any new process within a large corporate structure is communication. LCCA planned for an effective communication process in the early stages of this project. However, the company did not receive device evaluations from all of the 215 facilities during the established time frame. Therefore, one lesson learned is that future projects of this magnitude must be more decentralized, with divisional clinical directors being responsible for making sure the evaluations are done, gathering the summaries, and providing them to the standardization committee.

Assistance from vendor-company representatives was very helpful in presenting the products to the LCCA standardization committee, providing products to use in trials, providing sample product-evaluation forms, and educating workers.

At a corporate level, in addition to future oversight of the annual evaluations of safer medical devices, LCCA will closely monitor the tracking and trending of sharps injuries.

Over-all, cooperation from the facilities and the staff was excellent even with very challenging and demanding schedules being further taxed by the scope of this project.

**References**

1. OSHA. OSHA's National Emphasis Program - Nursing Homes and Personal Care Facilities. SIC 8051. 8052,8059. Directive 02-03 (CPL 2).www.osha-slc.gov/pls/oshaweb/owadisp.show\_document?p\_table=directives&p\_id=2873. Accessed December 16, 2003.
2. OSHA. Safety and Health Topics: Nursing Homes and Personal Care Facilities..www.osha-slc.gov/SLTC/nursinghome/index.html. Accessed 23 October 2003.
3. NIOSH. Safer Medical Device Implementation in Health Care Facilities: Sharing Lessons Learned. www.cdc.gov/niosh/topics/bbpf/safer/nursinghome3-step2.pdf. Accessed 23 October 2003.
4. OSHA. Industry Profile for OSHA Standard 19101030, Octo-

ber. 2001 - September, 2002. www.osha-slc.gov/cgi-bin/std/dser2?std=19101030&esize=0&state=FEFederal. Accessed 23 October 2003.

5. OSHA. Occupational exposure to bloodborne pathogens: needles and other sharps injuries: final rule (OSHA 29CFR Part 1910) *Federal Register* 2001;66(12):5318-5325.
6. OSHA. OSHA Directive CPL 2-2.69. Enforcement Procedures for the Occupational Exposure to Bloodborne Pathogens. www.osha.gov/pls/oshaweb/owadisp.show\_document?p\_table=directives&p\_id=2570. Accessed 23 October 2003.
7. NIOSH. NIOSH Alert: Preventing Needlestick Injuries in Health Care Settings. DHHS (NIOSH) Publication No. 2000-108, November 1999. www.cdc.gov/niosh/2000-108.html. Accessed 23 October 2003.



**Gail Bennett, RN, MSN, CIC**, received her BSN from the Medical College of Georgia and her Master of Science in Adult Health Nursing from Georgia State University. She is Certified in Infection Control. She is currently the Executive Director of ICP Associates, an international consulting company for education and prevention of infections. Her contracts include over 250 long-term care facilities. Ms. Bennett is an active member of the Association for Professionals in Infection Control and Epidemiology and has served in the past on their national board of directors. She is also a member of the National Nurses in Business Association. She provides educational programs throughout the United States and infection control products internationally.



**Ann Brown, RN**, has over 29 years in geriatric care in home care as well as nursing home care. Ann has experience as a Director of Nursing, Director of Medicare Compliance, and Director of Clinical Services with Life Care Centers of America. Presently, Ann is the Director of Joint Commission Accreditation with Life Care. Life Care Centers of America is seeking accreditation in all of its long term care facilities. Founded in 1976, Life Care Centers of America is one of the largest health care management companies in the nation. With headquarters in Cleveland, Tennessee, Life Care operates more than 260 nursing, subacute, assisted living, retirement and Alzheimer's centers in 28 states.

The *Infection Control Resource* is a quarterly newsletter distributed free of charge to health professionals. The *Infection Control Resource* is published by Saxe Healthcare Communications and is funded through an education grant from Kendall, a business unit of Tyco Healthcare Group LP. Our objective is to explore practical, clinically relevant topics in the field of infection control that will be of value to both the infection-control practitioner and the professional nurse. Opinions expressed in *Resource* are those of the authors and not necessarily of the editorial staff of Saxe Healthcare Communications or Tyco Healthcare Group LP. The publisher and Tyco Healthcare Group LP disclaim any responsibility or liability for such material. We welcome opinions and subscription requests from our readers.

Please direct your correspondence to:  
**Saxe Healthcare Communications**  
P.O. Box 1282  
Burlington, VT 05402  
info@saxecomcommunications.com  
Fax: 802.872.7558  
© Saxe Communications 2001-2006

This continuing nursing education activity was approved by the Vermont State Nurses' Association Inc. (VSNA) an accredited approver by the American Nurses Credentialing Center's Commission on Accreditation.

Provider approved by the California Board of Registered Nursing. Provider #CEP1447

Upon completion of this offering the learner will be able to:

1. Describe the four major components/requirements of the Needlestick Safety and Prevention Act.
2. List three characteristics of safety devices for needlestick prevention as summarized by NIOSH.
3. State the OSHA participation requirements of staff in evaluation and selection of safety devices.
4. List three differences in ICU patients and practices that influence worker risk of sharps injury.
5. Discuss differences between primary and secondary sharps-injury prevention devices.
6. Describe three sharps safety handling practices.

1. Read both articles.
2. Complete the post-test. (You may make copies of the answer form.)
3. Complete the participant evaluation.
4. Mail or fax the complete answer and evaluation forms to address below.
5. To earn 1.2 contact hours of continuing education, you must achieve a score of 70% or more. If you do not pass the test you may take it one more time.
6. Your results will be sent within four weeks after form is received.
7. **The fee has been waived through an educational grant from Covidien.**
8. Answer forms must be postmarked by September 5, 2010.

**For current renewal and expiration dates, visit [www.infectioncontrolresource.org](http://www.infectioncontrolresource.org)**

Mark your answers clearly with an "X" in the box next to the correct answer. **Please print clearly. Illegible writing will delay processing.**

Name & Credentials \_\_\_\_\_  
Position/Title \_\_\_\_\_  
Institution \_\_\_\_\_  
Address \_\_\_\_\_  
City \_\_\_\_\_ State \_\_\_\_\_ Zip \_\_\_\_\_  
Phone \_\_\_\_\_  
Fax \_\_\_\_\_

**Mail to:**

**Saxe Healthcare Communications**  
**PO Box 1282, Burlington, VT 05402**  
**Fax: 802.872.7558**

- 1. The Needlestick Prevention and Safety Act authorized OSHA to:**
- require implementation of specific brands of safety devices
  - require the use of sharps with engineered safety features
  - require that a sharps injury log be used to replace the OSHA 300 log
  - all of the above

- 2. NIOSH summarized desirable characteristics of safety devices for needlestick prevention. They included all of the following except:**
- The device is needleless.
  - The device preferably works passively.
  - The safety feature can be deactivated if necessary.
  - The safety feature is an integral part of the device.

- 3. The sharps-injury log must include documentation of the following except:**
- type and brand of device
  - location of the incident
  - type of worker who is injured
  - description of how the injury occurred

- 4. The sharps-injury log must include documentation of:**
- all sharps injuries
  - sharps injuries and splashes onto mucous membranes
  - sharps injuries that result in prophylactic treatment
  - injuries from contaminated sharps that penetrate the skin

- 5. A sample of non-managerial, front-line workers must participate in evaluation and implementation of sharps devices at least every:**
- quarter
  - six months
  - year
  - two years

- 6. The Needlestick Safety and Prevention Act requires revision of bloodborne pathogens exposure control plans to include:**
- how employers implement new developments in sharps injury-prevention technology and documentation of annual review
  - documentation of input from non-managerial, front-line healthcare workers into identification, evaluation, and selection of safety devices and other controls
  - copies of worker evaluation forms for medical devices considered for use
  - a and b

- 7. OSHA requires that safety devices chosen be:**
- appropriate
  - commercially available in sufficient quantity
  - effective
  - all of the above

- 8. What proportion of percutaneous injuries has been documented to occur in ICU settings?**
- 80%–85%
  - 50%–60%
  - 5%–8%
  - 1%–2%

- 9. Which of the following ICU perils does not affect sharps injuries?**
- patient sedation.
  - aggressive or combative patient behavior.
  - worker distractions from patient care.
  - fast pace.

- 10. What are the risks of multiple workers involved in hands-on patient care?**
- more hands involved in direct patient care.
  - increased activity surrounding direct patient care.
  - more worker discussion of patient cares and needs.
  - a and b.

- 11. What causes distractions to patient care?**
- phone calls.
  - equipment alarms.
  - pages.
  - all of the above.

- 12. Why is worker education about sharps safety less successful than desired?**
- worker feeling of being invincible.
  - difficulty changing unsafe work habits.
  - disregard for other workers' safety.
  - a and b.

- 13. Which device fits the definition of a primary sharps-injury prevention product?**
- scalpel with thumb-activated protective cover.
  - needle/syringe with no safety feature.
  - needleless IV system.
  - needle/syringe with worker-activated tip protector.

- 14. Examples of needleless medication administration methods are:**
- transdermal patches
  - inhalants
  - needleless injections
  - all of the above

- 15. Sharps boxes should be:**
- as close as possible to the point of use
  - filled until no more sharps can fit
  - used after inserting the needle into the mattress
  - none of the above

**Mark your answers with an X in the box next to the correct answer**

1	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	4	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	7	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	10	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	13	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
2	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	5	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	8	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	11	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	14	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D
3	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	6	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	9	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	12	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D	15	<input type="checkbox"/> A <input type="checkbox"/> B <input type="checkbox"/> C <input type="checkbox"/> D

<b>DO NOT WRITE IN THIS</b>	
Resource Volume 2, No. 3	
Score	<input type="text" value="15"/>

**Participant's Evaluation**

1. What is the highest degree you have earned (circle one)?	1. Diploma	2. Associate	3. Bachelors	4. Masters	5. Doctorate	
2. Indicate to what degree you met the objectives of this program using 1= strongly agree to 6 = strongly disagree rating scale. Please circle the number that best reflects the extent of your agreement to each statement:						
		<b>Strongly Agree</b>		<b>Strongly Disagree</b>		
a. Describe the four major components/requirements of the Needlestick Safety and Prevention Act.	1	2	3	4	5	6
b. List three characteristics of safety devices for needlestick prevention as summarized by NIOSH.	1	2	3	4	5	6
c. State the OSHA participation requirements of staff in evaluation and selection of safety devices.	1	2	3	4	5	6
d. List three differences in ICU patients and practices that influence worker risk of sharps injury.	1	2	3	4	5	6
e. Discuss differences between primary and secondary sharps-injury prevention devices.	1	2	3	4	5	6
f. Describe three sharps safety handling practices.	1	2	3	4	5	6
3. How long did it take you to complete this home-study program? _____	1	2	3	4	5	6
4. Have you used home study in the past? <input type="checkbox"/> Yes <input type="checkbox"/> No						
5. How many home-study courses do you typically use per year? _____						
6. What other areas would you like to cover through home study? _____						

**Mail to: Saxe Healthcare Communications, P.O. Box 1282, Burlington, VT 05402**

**Fax: (802) 872-7558**