

Sharps Injury Prevention in the Operating Room

By Ron Stoker



Sir Winston Churchill was truly one of the leading statesmen the world has ever known. He was the Prime Minister of Great Britain from 1940 to 1955. On October 29, 1941, during World War II, Churchill visited Harrow School to address its graduating class. He uttered just 12 words in a speech that lasted less than two minutes: “Never give up...Never, never give up...Never, never, never give up.”

This speech can help us learn that with patience, time, and determination, we can achieve great things.

I believe that we can achieve great things in changing how we do things in the operating room. There are too many needlestick and other sharps injuries that occur there. The operating room, outside of the patient room, has the most injuries to employees due to the number of needles, scalpels and other sharp, invasive medical devices. Many of these devices causing injuries are hollow-bore needle products. This, of course, is a concern since they can transmit a greater volume of blood to a staff member who is accidentally jabbed by one of them.

We should not just be complacent about the injuries. We should be diligent in making sure that we reduce exposure to bloodborne pathogens. A factor unique to the surgical environment is that exposure to blood on the hands often occurs without the knowledge to the exposed worker until gloves are removed after the procedure.

Of course the main concern of accidental needlesticks is the transfer of bloodborne pathogens to healthcare workers. The three most common bloodborne pathogens found in surgical patient’s blood are hepatitis C, HIV, and hepatitis B. The consequences of occupational exposure to bloodborne pathogens are not only infections. Each year thousands of healthcare workers are affected by psychological trauma during months of waiting for notification of serological results. Other personal consequences can include postponement of child bearing, altering sexual practices, side effects of prophylactic drugs, infection, chronic disabilities, loss of employment, denial of worker compensation claims, liver transplant and premature death.

The awareness of these risks of these risks associated with exposure to blood containing HCV, HIV and HBV has heightened the need for understanding the cause and prevention of sharps injury and exposure of blood in all operative settings. There is a need to make especially hazardous work sites such as the operating room and delivery room safer as accidents often happen unexpectedly, in close quarters and under unfavorable conditions.

Careful planning of specific strategies, excellent communication, teamwork and constant vigilance are essential components of any injury and exposure prevention plan. We may have not made great in-roads into changing habits and products in the operating room to this point but we should not give up on trying. As we were counseled by Churchill: *“Never give up!”*

The Needlestick Prevention and Safety Act requires that all areas of a hospital, including operating rooms, evaluate and use appropriate safety medical devices that can reduce sharps injuries. Let’s talk about how we can be in greater compliance to the requirements of the law. After all, the law has been put in place to protect people—not to make it difficult for hospitals and physicians. Its purpose is to save lives and mitigate

suffering from diseases passed from accidental needlesticks and injuries from other sharps.

EVALUATING SAFETY DEVICES

I participate in a national seminar that is titled “The Needlestick Prevention Tour.” Throughout the tour, I have had an opportunity to visit state hospital associations, APIC chapters, and large hospital systems, teaching and discussing matters of safety devices with healthcare workers. During these seminars I have had many opportunities to ask how many hospitals are in compliance with the requirements of the law. Many are doing very well but there are still large numbers that find themselves in non-compliance—and have many injuries to show for it.

One of the best methods to help reduce these sharps injuries is to take the time to evaluate a number of sharps injury prevention products. The OSHA regulations indicate that any hospital that is engaged in healthcare delivery and has employees working for them, *must* evaluate safety medical devices and standard procedures that have can reduce the number of sharps injuries occurring to employees. So, how do we go about doing this?

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First, take an inventory of all sharps that are used in your OR. There are a variety of medical devices that can accidentally injure nurses, physicians, and other healthcare professionals. Make a list of all of them. Make sure that you follow the path of a patient from the time they walk in the front door until they are released. Look at all products that are used including, blood-draw sets, IVs that are inserted into the veins, scalpels, suture needles, etc.

Make sure that you involve all members of the surgical team to participate in this effort since they all share risks and should share in the responsibility for safety of all workers. There are a number of special hazards, inherent in operating rooms, that call for special precautions and preventative strategies.

Second, armed with your list of sharps, look at all alternative devices that your hospital might be using. These might include safety IV insertion devices, blood draw sets, needlefree IV connectors, safety scalpels, blunt sutures, etc. Involve frontline workers in putting together this list. Make sure that surgeons and anesthesiologists are on your committee. In my experience, many of these healthcare professionals are a step behind in their understanding of the requirements of the

law and have been slow to respond. OSHA is aware of this. In fact, in many institutions, OSHA is targeting surgeons and anesthesiologists to make sure that they are in compliance with the evaluation and use of safety devices in the OR.

Third, identify alternative devices that your hospital has not evaluated. Make a list of potential products including the name, address, phone number of the manufacturer. Contact various manufacturers and request that brochures or samples be sent to you for evaluation. One quick method that many hospitals are taking advantage of is to contact healthcare worker advocacy groups and solicit their help. For example, we receive many emails at ISIPS, the International Sharps Injury Prevention Society, requesting assistance in gathering this type of information and sample. When I receive such a request, I send an email out to more than 65 different medical device manufacturers indicating that a hospital has a need for a safety IV catheter or a safety scalpel. ISIPS corporate members will respond with samples and brochures to the institution.

Fourth, evaluate the safety products that you have now been able to bring in-house. Make sure that you have a variety of workers look at these products, especially frontline workers.

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A decision by your committee to use or not use a specific product will help to establish their buy-in to the use of the product.

And finally, *use* the new safety product that you have decided on. Purge the stock room of all products that are *not* safety products. This will help to reinforce the use of only safety products.

ESTABLISH SAFETY PROCEDURES

One of the successful procedures in reducing employee sharps injuries is the use of a “neutral zone” for the passing of surgical instruments. Some operating rooms are using special reusable drapes where an instrument is placed by one individual. After the first individual has moved his hand the instrument is being picked up by the second worker. Other hospitals use a tray or a specified part of a cart or table.

One such product is the ScrubSafe™ Sharps Transfer Tray. The Scrubsafe is a disposable device that is used to transfer and pass commonly used sharp instruments. It accommodates a wide range of scalpels, sutures, trocars, forceps, K-wires, syringes, and retractors. Its sloping sides automatically direct dropped scalpels into a safety position where the blade is protected. Its underside



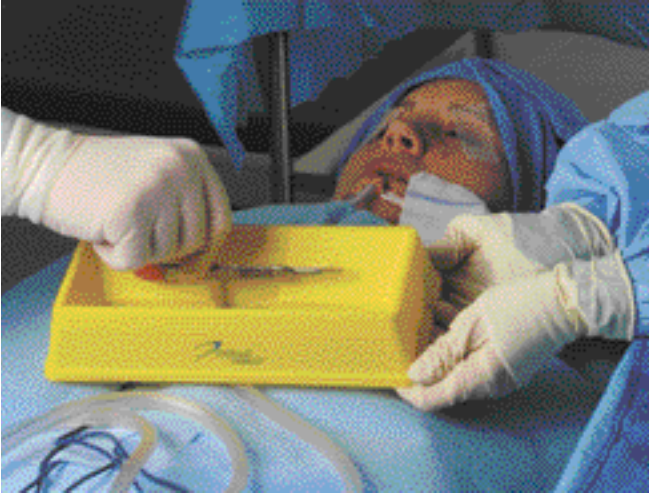
accommodates the practical positioning and safe passing of multiple instruments. It has been used successfully in a number of institutions where they have felt it was user-friendly for the entire operating team.(see the photo above.)

The recapping of needles except under special circumstances was banned too long ago! And yet it is still done by a number of clinicians, particularly with anesthesiologists. A justification of this has been the need to give intermittent injections to a patient. The syringe is typically recapped between injections. The Bloodborne Pathogen Standard only permits recapping of contaminated needles under very specific and limited circumstances where no alternative is feasible, or that such action is required by a specific medical procedure, such as with incremental doses of medication or the injection of radioactive materials.

When this recapping is absolutely necessary, make sure that you are using a mechanical device that will protect everyone in the room and not risking sticking yourself or a co-worker with a contaminated syringe needle. One product that is used for safely recapping is the NeedleSafe II, which eliminates the risk needle stick injury for all dispensing and administering personnel. It requires only a single hand for uncapping and recapping. It provides great protection and economy, allowing hospital-wide use. It can be placed in easy reach for the anesthesiologist. The NeedleSafe II permits single-handed uncapping and recapping of syringes and also functions as a syringe holder. (see the photo on page 37.)

DOCUMENT YOUR PROCESS

When going through the product evaluation process, make sure that you document everything! Make sure that you document the process, which clinicians were involved in the decision making, what the decisions were, and when you will review it again. The important thing is to document your process. Put together a plan as to what products will be



evaluated, how they will be evaluated, who will do the testing, and how will the data be analyzed.

Make sure that adequate numbers of frontline workers are involved in the testing. Make sure that you document any

training or product education or inservicing that is done with new products. Make sure that all healthcare workers are properly educated on a product or the trial of the safety product could end simply because individuals do not know how to use it. Don't sabotage sharps safety by inadequate product education.

CONCLUSION

As Winston Churchill indicated in his short and meaningful speech, we should "never give up" in our quest to make the operating room a safe place for both patients and healthcare workers alike. The phrase, "First, do no harm," should extend to ourselves and fellow healthcare workers. Each of us can and should make a difference in making our operating rooms and hospitals safer places to work. †

Ron Stoker, a frequent contributor to Managing Infection Control magazine, is the Executive Director of ISIPS, the International Sharps Injury Prevention Society. He is a frequent speaker on sharps safety and occupational blood exposure at national and international events. For more information about ISIPS and sharps safety products, visit www.isips.org, or email Mr. Stoker at ron@isips.org.
