Over-Exposed

Anna Schenk, Editorial Intern, Surgical Products

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Managing hospital waste is a complex but important process. Through the use of disposal products, protective equipment, prudent practices, and the implementation of fluid management systems, hospitals and other medical facilities are able to dispose of hospital waste in a way that minimizes the spread of infection. In general, the practices and safeguards are working. But there are still areas where hospitals can improve. According to Bill Merkle, President, of MD Technologies, “The area of greatest weakness in the process of disposing waste is the exposure of staff to potentially infectious matter.” So while hospitals work to cut costs and shorten surgery time, they also need to continue to focus on that important aspect of waste disposal: limiting exposure to infectious fluids in order to keep patients and medical personnel healthy and infection free.

Dealing With Microorganisms

Today, the most common practice for handling waste remains the use of disposable canisters. When patients undergo surgery, they can produce dozens of liters of fluids that necessitate safe and immediate disposal. This fluid is disposed of either by using a solidifier—which turns the fluid into a gel—and then disposing the gel in a landfill, or by flushing the fluid down a sink and then throwing the container away or cleaning the canister for reuse

According to Merkle, canisters are handled at the bedside, at the hopper or storage area where they will be transported, and later at the incinerator or landfill. During each instance, there is possibility for the healthcare or other service worker to be exposed to pathogenic bacteria and viruses. This antiquated method of disposal poses a real threat to healthcare workers. It is also costly and harmful for the environment— these potentially diseased or bloody canisters can cost a facility

anywhere from $0.30 to $0.50 per pound to dispose of in a landfill, and can take centuries to biodegrade.

The other main method for surgical waste removal seems, at a glance, to be safer: it is a closed cart system that suctions and collects liquids during surgery and transports them to a separate disposal station. However, three versions of this system have recently been recalled, as they contributed to patient deaths. Experts suggest that some of these current systems are expensive, inefficient, and expose staff and patients to potentially harmful microorganisms.

Recognizing Hidden Costs

Many facilities use various fluid management systems to dispose of these harmful microorganisms and in the majority of cases, waste management is adequate, though experts maintain that there are costs and risks inherent to the canister system. Depending upon the method, it is necessary to protect workers using masks, gowns, gloves, and other protective gear— which all add to disposal costs. Mistakes in these methods include inadequate isolation by not using the protective gear, and improper use of equipment that results in exposure to the fluid.

Oftentimes the issue is not so much that waste is inadequately managed by nurses and doctors, but that the safety dangers to the staff and patients are not adequately understood by the administration. Too often, the true costs of handling waste and additional safety costs are minimized; only material costs are reflected in an analysis, and the efficiencies and safety costs are not recognized.

The Consequences

“The most obvious consequence of improper fluid waste management practice is HAI or hospital acquired infection, due to exposure by a healthcare worker to infectious fluids and later contact with a patient,” says Merkle. Both patients and staff risk exposure to bloodborne pathogens such as HI, Hepatitis B, or Hepatitis C when exposed to the contents of a canister of contaminated surgical fluids during or after the disposal process.

Staff safety is sometimes compromised because of exposure to hazardous waste (as a result of spills, clean ups or knocking over full canisters, or splashing when transporting). And personnel even risk injury when lifting heavy collection devices.

Julie Ryan, President of BASS Medical, notes that the oftentimes long clean up time between cases which results in staff and surgeon wait times is another significant problem affecting hospitals. Limited capacity canisters, which require interruption in the surgical case and a need for additional equipment, only add to this problem.

Ensuring Proper Waste Management Education is key in ensuring efficient and proper waste management. According to Dave Dauwalter and Dave Johnson of Skyline Medical, management should regularly review new technologies that create a safer working environment. Management should also engage the users of the technology and value their input in the decision making process, making sure that

everyone understands new technology.

Merkle says “simple hand washing” is essential to preventing infection transfer. When dealing with waste, he states, “a fluid management system can be selected such that the healthcare worker is not exposed to fluid at any step in the disposal process.”

If staff does come in contact with fluid, Ryan stresses the importance of “catching fluid before it hits the floor and makes it contaminated and hazardous (slippery).”

Implementing Change

Despite these strategies, change is often difficult to accept for many facilities, particularly when that change comes at a significant, often unbudgeted cost or requires hospitals to temporarily shut down operation while the new system is installed. So the perceived cost of fluid control systems can prevent hospitals from becoming safer. But institutions need to understand what their total existing costs for collecting and disposing of surgical waste really are, so that they can more accurately assess alternatives.

Ryan comments on the potential costs that come along with inexpensive, inefficient fluid control systems: “most hospitals are self-insured. When an employee slips and falls on a wet OR floor, it can be very expensive for the hospital. If the injured employee needs surgery, and lots of time off to recuperate, the bill can be as high as $500K…Facilities make the mistake of simply comparing the price of products. Often times the products aren’t comparable.”

Determining the best combination of staff protection and cost efficiency appears to be a real challenge for hospitals reviewing their waste disposal plans right now. If hospitals do take the time to review their systems though, they will likely find that improved safety comes at a price worth paying. Once the total cost for waste removal systems is assessed, efficient fluid control systems that eliminate exposure to potentially infectious fluids offer a cost effective—and safe—alternative.