

Liquid Waste Disposal Systems

Moving to a new system can increase staff safety and save costs



Today, healthcare professionals have been asked to serve two masters. Government agencies like OSHA (Occupational Safety and Health Administration), the EPA (U.S. Environmental Protection Agency) and CDC (Centers for Disease Control and Prevention) have increased the regulations for disposal of infectious fluids. At the same time insurance companies, other government agencies and hospital management are asking healthcare practitioners to cut costs wherever they can.

Methods of Waste Disposal

There are several methods used today for the disposal of full canisters. Placing canisters in red-bag waste is a common option. However, the cost of disposing of red-bag waste averages \$.30 per pound compared to \$.03 for regular waste. Canisters can weigh as much as 8 pounds when full so this adds up quickly. Adding a solidifier to the canister is a popular treatment method but this can add \$1.00 or more to the disposal cost and does nothing to eliminate the weight issues of infectious waste disposal.

Steam sterilization is another treatment option; however, in certain circumstances, the waste may not be adequately treated, according to an evaluation done by the State of California Department of Health Services.

One of the least expensive and commonly used disposal methods today is to simply pour the contents of the canisters down a drain and into the sanitary sewer system. OSHA, the EPA and the CDC agree that this is the safest place for the waste to go because of the secondary treatment systems, but pouring is not a safe practice. Aerosolization and splashing can occur when pouring out the contents, so OSHA requires engineering

Quick-Drain™ System



controls such as using proper PPE (personal protective equipment) when performing this function.

Although federal agencies approve of putting the waste into the sewer system, state and local regulations can vary greatly. Always check with the local wastewater treatment facility before putting liquid infectious waste into the drain.

Waste Management Systems

Several manufacturers have developed closed systems where fluids are collected and transported directly from the procedure to disposal. However, these systems can represent a significant capital investment requiring multiple units and taking up valuable space in the OR. They also incur additional costs for tubing, lids or chemicals each time the system is used. Plus, suction canisters still need to be used in patient rooms and the ICU so disposal of these canisters will need to be addressed. The high occurrence of bloodborne pathogens increased the need for safer disposal alternatives. This concern led to the development of new and innovative liquid infectious waste management systems.

In the late-90s, Bemis Health Care came out with its first product to address the everyday challenges of proper and safe infectious waste disposal. Vac-U-Port™ Liquid Infectious Waste Management System is a confined system that drains infectious waste from the bottom of the Bemis Vac-U-Port canister directly into the sanitary sewer system. No electricity is required and the units connect easily to existing plumbing.

In 2004 Bemis introduced its newest state-of-the-art waste management system called Quick-Drain™, a confined system that utilizes Bemis' Hi-Flow rigid canisters and

Quick-Fit suction liners. Both systems were designed to lower costs of infectious waste disposal by reducing the expense of red-bag waste and eliminate per-use costs such as solidifiers and disposables.

System changeover expenses and equipment costs with both systems can be recouped in a matter of months, not years. According to Dan Loest, director of plant services at St. Nicholas Hospital in Sheboygan, Wis., waste per patient per day reduced from 2.67 pounds to 1.54 pounds in the first year of use.

Safety and Infection Control

Bemis Quick-Drain has several features to improve worker safety. During the draining process, the drain head is locked onto the canister cover to form a leak-proof seal. The built-in rinse feature allows the user the option of removing any remaining residue and, if hospital policy allows, the rinsed canister may be put into the regular trash.

OR Manager, Amy Fogeltanz, of Aurora Health Care in Two Rivers, Wis., appreciates the improvements the confined system has brought to her OR. "We had been using a solidifier and disposing of canisters in a white-bag system," Fogeltanz said. "The odor of the solidifier created a concern; my staff was uncomfortable with the use of chemicals. My staff feels safer, plus the process is not time consuming."

A few years ago, The Mount Sinai Hospital in New York City, a 1,171-bed hospital and one of the country's oldest and largest voluntary teaching hospitals, was looking for a solution to their waste disposal issues. According to hospital officials at Mt. Sinai, the hospital has 46 operating rooms and performs 120 to 130 cases per day. They were generating a lot of waste at an expensive price.

The hospital was putting their full canisters of waste into red-bags which were transported to the decontamination area. There, they were boxed and picked up by a medical waste hauler. There were constant problems with leakage, which was an infection control concern and increased their already expensive red-bag waste cost. Hospital officials were interested in finding a better way to handle this waste and began actively looking for a new waste management system.

An evaluation committee, which included the SPD director, OR manager and nurse educator, looked at all competitive systems and even did site visits to see the equipment in action. By changing it's method of waste disposal and replacing it with the Bemis Quick-Drain system, hospital officials reported that \$900,000 a year in disposal costs were saved. Officials reported further that the red-bag waste was significantly reduced because the rinse feature allowed them to put 99 percent of the canisters into white-bag waste.

This system made sense from an infection control perspective because leaky bags and boxes were eliminated and the staff found it very easy to use. As an added benefit, Mt. Sinai was able to recoup the cost of the new system in less than a month.

System Maintenance

As for maintenance, it is recommended that an enzymatic cleaner be run through the system daily to keep it operating in top condition. An automatic enzymatic solution dispenser can be installed on the units, which flushes the system regularly. This allows for daily automated maintenance so hospital staff do not have to worry about taking care of this aspect. It also ensures that the drain will stay clear with the large amounts of waste being flushed through the system on a daily basis. †

For more than 35 years, Bemis Health Care, a division of Bemis Manufacturing, has been addressing the needs of the healthcare industry by providing high quality, disposable plastic products. Today, their focus is to provide products that collect and dispose of infectious waste. For more information on Quick- Drain™ and Vac-U-Port™ please visit the company's Web site at www.bemishealthcare.com or contact 800.558.7651, ext. 5502.

