



Hospital Waste Management

Winter 2014

Special points of interest:

- **Managing ebola waste**

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Hospital Waste

Managing Ebola Waste

Conflicting information has been the hallmark of America's battle against ebola, including the management of waste generated when caring for ebola-infected patients. Atlanta's Emory Hospital reported that it generated up to 40 bags of waste daily when treating two infected missionaries. Slowly, the Centers for Disease Control (CDC), the U. S. Department of Transportation (U.S. DOT) and the nation's largest regulated medical waste vendor—Stericycle—are coordinating consistent answers on ebola waste management.

The CDC prefers that waste generated during the care of ebola-infected patients be managed in the same fashion as other infectious waste. The agency does recommend incineration. The U.S. DOT, however, has designated this waste as Category A, meaning life-threatening, and it requires handling according to the hazardous material regulations. These regulations require special handling and training for those who transport the waste over the nation's highways. Finally, Stericycle has published a protocol for the management of ebola waste that complies with U.S. DOT regulations, but said that no ebola waste will go to its North Salt Lake incinerator.

The ebola virus is quite fragile outside the human body and is readily inactivated by a variety of chemical or thermal treatments:

- Bleach, 1:10 dilution of 5.25% for > 10 min;
- 3% acetic acid;

- 1% glutaraldehyde;
- Calcium hypochlorite (bleach powder);
- Heating for 30–60 min at 60° C (140° F);
- Boiling for 5 min;
- Gamma radiation (1.2 x 10⁶ rads to 1.27 x 10⁶ rads) combined with 1% glutaraldehyde.

Stericycle's recipe for managing ebola-contaminated waste is the following:

1. Place waste into medical waste bag;
2. Apply bleach or other virocidal disinfectant into the primary bag to sufficiently cover the surface of materials contained within the bag;
3. Tie the bag;
4. Treat the exterior of the primary bag with bleach or other virocidal disinfectant;
5. Place the primary bag into a secondary bag and securely tie the outer bag;
6. Treat the exterior surface of the secondary bag with bleach or other virocidal disinfectant.
7. Place the bags into a Category A waste drum, obtainable from Stericycle, and seal the drum.

Options for disposal of ebola waste are available; let's hope that the worst is over.

Free 4-Day Medical/Dental/Vision RAM Clinic in Seattle a Success

In late October the Remote Area Medical (RAM) Clinic came to Seattle. Over Thursday, Friday, Saturday and Sunday (October 23-26) at Seattle's Key Arena 1,500 volunteers facilitated medical, dental and vision care for 3,400 patients—all free.

Patients began lining up at midnight and doors to Key Arena opened at 5:30 am each day to begin processing patients. Triage was performed, then volunteers escorted patients to waiting areas for the 60 dental operatories on the floor of the arena, 40 medical suites, or a handful of vision clinics.

Dental care comprised cleaning, fillings, crowns, root canals, bridges and extractions. Medical care included acupuncture, wound care, EKGs, general men's and women's physicals, foot care, mental health, chiropractic, vaccinations, diagnoses and referrals for additional care. Vision included eye exams and free eyeglasses, some prepared beforehand and others ground and fitted onsite.

Volunteers also handed out several thousand pairs of free new socks and new shoes.

Many patients did not speak English well enough to tell



Sixty dental operatories on the floor of Key Arena for RAM

professionals their problems, so RAM provided nine InDemand™ electronic translators that provided Skype communications with native speakers for the patient and healthcare professional. Some of the languages thus translated included Amharic, Hmong, Swahili, Vietnamese, Cantonese, French, Spanish and dozens of others.

Meals and snacks were provided for the 1,500 volunteers, who generally worked 13-hour days. Food was not provided to patients. Most volunteers showed up each day at 5:00 am for breakfast, then went to work; cooks and organizers showed up much earlier!

Patients often waited hours for care, but were almost universally grateful for the free care regardless of the wait. For many who have no insurance the clinic was the only means for healthcare for their family.

RAM began in the 1980s to provide care for third-world countries, but eventually it was recognized that the model is ideal for the United States. RAM will come to the Northwest again, although plans have not been finalized. It was clearly a success and the need was greater than most professionals expected.

Support was provided by more than 60 Washington firms and organizations.



Radio communications for RAM Clinic

Hazardous Drug Control Plan: It's Time to Implement

After years of preparation and committee meetings, January 1, 2015 is just about here. On that date all healthcare and veterinary facilities in Washington with patient contact must implement written Hazardous Drug Control Plans. Washington's Department of Labor & Industries promises to begin inspections immediately to insure that facilities comply.

Plans must have four elements:

1. A list of hazardous drugs to which employees may be exposed;
2. Job Hazard Assessments for all employee positions that may potentially experience exposure to

hazardous drugs;

3. A Personal Protective Equipment Assessment; and
4. An algorithm or decision tree to direct employees to appropriate training, engineering controls, and PPE to protect themselves. This should describe risk levels and best practices.

At seminars L&I inspectors have related experiences that cause them to regard the issue of hazardous drug exposure to employees to be serious. Although it is unlikely that inspectors will immediately begin citing and fining facilities for not having written Hazardous

Drug Control Plans in place, they are expected to request to see these plans whenever they gain access to a healthcare or veterinary facility. This may result from an employee complaint, a normally-scheduled facility inspection, or an anonymous tip follow-up.

Some information is available at L&I's website if you have not yet developed a plan for your facility [<http://www.lni.wa.gov/Safety/Topics/Atoz/HazardousDrugs/default.asp>].

By July 1, 2015 employees must be trained. By January 1, 2016 approved ventilation cabinets must be installed.



Next: Training Your Staff for Hazardous Drugs

Now that you and your staff have compiled a Hazardous Drug Control Plan (HDCP) the next step is to train your staff to safeguard them from exposure to hazardous drugs. Training must be completed by July 1, 2015.

L&I has stated that they will begin enforcing the provision of the Hazardous Drug Rule immediately, so it's important to develop a training regimen for those staff who may be exposed. There are two essential elements that you must have in place to satisfy L&I

inspectors:

- Develop a written training program for each of the exposure risk tiers that you listed in your HDCP, and
- Document your staff training with logs.

Training should incorporate a number of elements to make it relevant:

1. A brief history of the law and why it was enacted;
2. The influence of NIOSH upon the law;

3. The types of drugs in the list and their effects upon humans;
4. The pathways or exposure vectors that the drugs can take to get inside the body;
5. Appropriate PPE and engineering controls; and
6. How to don and doff PPE safely.

Training logs should include the name, date, and type of training each staff has received.





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Hospital Waste is published quarterly for hospital, clinical and medical laboratory waste and hazardous material managers to assist them in managing these materials.

You can download past issues (since Summer 1999) of Hospital Waste from our website <http://www.hospitalwastemgmt.com>. There is a searchable index of articles at the website and all issues are downloadable as portable document format (.pdf) files.



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Updating Your Facility Pharmaceutical Waste Profile

Sometime in years past your facility probably generated a Pharmaceutical Waste Profile (PWP) to describe batches of drug waste that you periodically send out for incineration. This generic waste manifest should show all the state and federal waste codes that could be typically found in shipments of drug waste hauled away by your licensed hazardous waste vendor. The PWP is filed with Washington Ecology by merely mailing the notification in to their office in Olympia.

Every three years you should re-visit your profile. Take a batch of drug waste, pour it out onto a table, and identify the waste codes associated with those drugs. If there are new codes or you don't find codes that were on your original PWP, then you should amend your PWP and file a new one with Ecology.

If inspectors discover that wastes are being hauled off-site that aren't on your facility PWP, Ecology can suspend your program, usually resulting in a major change in your facility's waste generator status.