

Management

BULLETIN

Sorting Out Medical Waste in the Health Department

How do I treat biohazardous waste for disposal?
Is it medical waste or regulated medical waste?
Who sets medical waste rules in North Carolina?
Where does Occupational Health and Safety
Association (OSHA) fit in?

The rules of properly disposing of waste in a laboratory can be confusing but understanding them is important to staff and patient safety, your budget, and the environment. In this article, we will provide guidance on how to best manage waste generated in your lab, and to ensure both compliance and safety in the process.

Who makes the rules?

The Environmental Quality Solid Waste Section regulates packaging, labeling, storage, transportation, treatment, and disposal of medical waste in North Carolina. In addition, the OSHA Bloodborne Pathogen (BBP) Standard also addresses medical waste disposal requirements.

At first glance, it may appear that some of the rules set by one agency contradict the other. However, one important distinction can help you understand the difference: The BBP Standard is written to ensure worker safety while the NC Waste Management Rules focus on protection of the environment and public health. Therefore, some waste constitutes a risk for personnel in the workplace but does not pose a similar risk to the environment or public health in the disposal process.

Definitions

With the goal of protecting workers, the BBP Standard defines regulated waste as: *“liquid or semi-liquid blood or other potentially infectious material (OPIM); contaminated items that would release blood or OPIM in a liquid or semi-liquid state if compressed; items that are caked with dried blood or OPIM and are capable of releasing these materials during handling; contaminated sharps; and pathological and microbiological wastes containing blood or OPIM.”*

In North Carolina, medical waste is described as: *“solid waste which is generated in the diagnosis, treatment or immunization of human beings or animals, in research pertaining thereto or in the production of testing of biologicals”* with regulated medical waste defined as: *“blood and body fluids in individual containers in volumes greater than 20 ml, microbiological waste, and pathological waste that have not been treated.”*

Waste Management Questions

Now let's use those definitions to provide guidance to a few questions we have received from Health Departments regarding medical waste. Remember, a site-specific risk assessment is always recommended to determine what risks are present at your Health Department and how you can best mitigate them.

Question: Can we treat GC plates with bleach and then dispose of plates in regular trash?

Answer: According to NC Medical Waste Rules it is acceptable to dispose of microbiological waste as general waste once treated. However, the utmost care must be taken to ensure all interior and exterior surfaces of the plate are decontaminated for the appropriate contact time. Then all bleach should be removed, diluted with water, and discarded down the sanitary sewer. Ensure that you are wearing proper personal protective equipment (PPE), including protective goggles, when pouring off and collecting bleach. Never put plates containing liquid bleach in the regular trash as this increases the potential for leaks and subsequent risk exposure to skin or mucous membranes. Therefore, it is up to each lab to do a risk assessment to determine if the risk to personnel of handling large quantities of bleach is warranted over disposing of plates as biohazardous waste.

Question: How do we dispose of urine and urine specimen collection containers?

Answer: OSHA specifies that if the urine or container is visibly contaminated with blood or OPIM, it should be disposed of as regulated waste. In the absence of visible blood, both OSHA and NC standards agree that urine can be put into the sanitary sewer, and empty containers do not require a red biohazard bag for disposal. Keep in mind that the OSHA standard is only written to protect workers from BBP and does not address pathogens with aerosol exposure risk, such as measles and rubella, which can be isolated from urine.

Question: What is the proper way to dispose of used disposable gloves?

Answer: The NC Medical Waste Management Rules exclude gloves from the definition of regulated medical waste and put forth no requirement for their disposal. The OSHA standard only refers to the fact that PPE must be placed in the appropriate area or container for disposal. However, the BBP standard reminds us to practice Universal Precautions and treat all human blood and OPIM as if known to be infectious for BBP. Further, the 1988 Medical Waste Tracking Act defines biohazardous medical waste as “waste generated during medical research and

testing of humans or animals,” and the “byproduct of or treatment of humans or animals.” Taken together, it would seem reasonable to assume that gloves worn during patient care or specimen handling would be considered biohazardous waste and should be disposed of as such.

Question: How should labs dispose of wet mount slides?

Answer: Vaginal secretions are included in the BBP Standard list of other potentially infectious materials (OPIM) and thus are considered regulated waste, which is discarded in bags or containers designated for biohazardous waste disposal. Although the argument can be made that potassium hydroxide (KOH) would inactivate any pathogens present, there is no data to be found on the necessary concentration or contact time to support this method of disinfection. Further, the BBP standard calls for engineering and work practice controls to ensure proper handling and disposal of needles and other sharps to help prevent exposures. This would include glass slides used for wet mounts. The recommendation would be that all glass slides be disposed of in a sharp’s container approved for biohazard disposal. This will protect laboratory staff as well as anyone who may come into contact with the regular trash from the laboratory.

Summary

It is easy to see that the different regulations and definitions can be confusing. While the NC Medical Waste Management Rules are designed to protect the environment and public health, the OSHA Bloodborne Pathogens Standard is focused on worker safety within the narrow scope of pathogens with bloodborne transmission potential. This means that it is up to individual laboratories to determine how to best comply with the various regulations while considering both the health and safety of the staff and the impact on the environment and public health.

Please feel free to reach out to us if you have any questions or would like assistance with your risk assessment processes.

References

Occupational Safety and Health Administration (OSHA), Bloodborne Pathogens 1910.1030, <https://www.osha.gov/laws-regs/regulations/standardnumber/1910/1910.1030>

North Carolina Department of Environmental Quality, Medical Waste Guidance and Interpretation, <https://deq.nc.gov/medical-waste-guidance-and-interpretation>

1988 Environmental Protection Agency Medical Tracking Act, <https://archive.epa.gov/epawaste/nonhaz/industrial/medical/web/pdf/mwta.pdf>

■ *Submitted by: Kristin Long*
NCSLPH Biosafety/Biosecurity Officer

