



FACT SHEET

Treatment Collection and Disposal of Infectious Medical Waste

Infectious medical waste is generated by hospitals, doctors' offices, veterinary clinics and similar health care facilities. As the home-health care industry grows, increasing quantities are to be found in residential waste. Concerning the health risks associated with medical waste, studies show that it does not contain any greater quantity, or different types, of microbiological agents than does residential waste. There is also evidence to show that untreated medical waste can be safely disposed in properly operated municipal waste landfills. Nevertheless, there are health risks associated with medical waste, especially for those exposed to it in their jobs. Such occupations include nursing, janitorial work and refuse collection/management.

There are two basic ways of managing medical waste that can protect workers and the public from disease transmission:

- 1) Treatment to render the waste non-infectious, or
- 2) Segregation to prevent exposure.

A crucial link in the chain of disease transmission is the "portal of entry", such as a break in the skin. This can occur from injury by sharp objects that may be in the medical waste stream. For this reason, "sharps" (needles, scalpels, glass blood vials, etc.) are typically disposed immediately in special sharps containers.

Regulatory Framework

Nevada regulations do not require treatment of medical waste. Disposal in a permitted landfill according to approved practices is acceptable. However, until the waste has been either treated or disposed, it must be stored and collected according to the requirements of Nevada Administrative Code (NAC) 444.662. (Note: the Washoe County District Health Department and the Southern Nevada Health District in Clark County have infectious waste regulations that do require treatment before disposal.)

There is no comprehensive federal regulatory program for the management of medical waste. The US Occupational Safety and Health Administration (OSHA) has adopted regulations to limit workers' occupational exposure to blood and other body fluids which may pose a risk of infection by bloodborne pathogens².

The Nevada Administrative Code (NAC) contains the following regulations concerning the storage, collection, and disposal of medical waste:

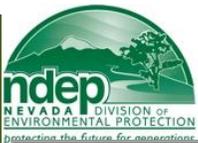
444.589 "Medical waste" defined. "Medical waste" has the meaning as ascribed to it in 49 C.F.R. Part 173, Appendix G - "Definition of Regulated Medical Waste," as that appendix existed on November 8, 1993. See: http://ndep.nv.gov/bwm/Docs/medical_waste_definition-49_cfr.pdf

444.646 Disposal of special wastes: Sewage sludge, septic tank pumpings and medical wastes; coverage of burial area.

1. medical wastes may be deposited at a disposal site only if provisions for such disposal are included in the operational plan and approved by the solid waste management authority.
2. A completed special waste burial area must be covered with a layer of suitable cover material compacted to a minimum uniform depth of 36 inches.

444.662 Storage of solid wastes before collection.

...5. Medical wastes must be stored in watertight, tightly covered and clearly labeled containers that are resistant to corrosion and are in a safe location, inaccessible to the public. In addition, medical wastes



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must be stored in cleanable containers with liners approved by the solid waste management authority. Medical wastes must not be deposited in containers with other solid wastes. Medical wastes must be transported separately from other solid wastes to an approved disposal site and handled in accordance with a method approved by the solid waste management authority.

These regulations accomplish three things:

1. The following are included in the definition of medical waste: cultures and stocks of infectious agents, pathological wastes, human blood and blood products, sharps, contaminated animal wastes and isolation wastes. The definition exempts household waste and also medical waste that has been "treated and destroyed".
2. A procedural requirement is established for the disposal of medical waste.
3. Minimum standards are established for the storage, labeling, segregating and transporting of medical waste.

Applicability

Commercial, industrial and government facilities that generate medical waste and must comply with the above requirements include:

- Hospitals, clinics and other medical facilities
- Doctors' and dentists' offices
- Veterinarians' offices
- Medical and veterinary research laboratories
- Home health care agencies that remove and transport medical waste away from the home
- Businesses that transport non-residential medical waste.

Household waste is exempt from the above requirements, although a home health care provider that removes the medical wastes from the household would be considered a commercial generator, and would be subject to the requirements. Because household waste is exempt, and the complete elimination of medical wastes from the residential waste stream is impractical, waste collection, transporting and disposal companies which service this sector should be aware of the potential for medical waste hazards present in this waste stream.

Management by Treatment

Facilities that accept Medical Waste for treatment are regulated as "Disposal Sites" (as defined by 444.460¹). As Medical Waste is a Solid Waste (as defined by NRS 444.490²) any of the following treatment technologies would constitute treatment of solid waste. Accordingly these sites are subject to: *NAC 444.676 system to Process waste other methods*. All Medical Waste facilities that Treat prior to disposal are subject to the permitting requirements of NAC 444.676. See (<http://ndep.nv.gov/bwm/Docs/ProcessFacilityAppGuidance.pdf>) for requirements.

¹ NRS 444.460 "Disposal site" defined. "Disposal site" means any place at which solid waste is dumped, abandoned or accepted or disposed of by incineration, land filling, composting or any other method. The term includes a municipal solid waste landfill.

² NRS 444.490 "Solid waste" defined. "Solid waste" means all putrescible and nonputrescible refuse in solid or semisolid form, including, but not limited to, garbage, rubbish, junk vehicles, ashes or incinerator residue, street refuse, dead animals, demolition waste, construction waste, solid or semisolid commercial and industrial waste. The term does not include hazardous waste managed pursuant to [NRS 459.400](#) to [459.600](#), inclusive.



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Autoclaving

Heating under high pressure is widely accepted as an effective medical waste treatment technology. ["Treatment" means the destruction of disease-causing organisms that may be present in the waste.] Large, commercially operated autoclaves in both Clark and Washoe Counties are capable of treating all the medical waste generated in their service areas prior to disposal at the local municipal landfills. Under Washoe County Health District ordinances, treatment of medical waste is required before disposal.

Incineration

Complete combustion by exposure of the waste to intense heat was formerly used at many hospitals throughout Nevada to treat and destroy medical wastes. On September 15, 1997 the US EPA promulgated new federal regulations under the Clean Air Act (40 CFR Part 60, Subparts Ec & Ce) establishing more stringent emission standards for medical waste incinerators. Meeting the new standards involved costly equipment upgrades and emissions monitoring, and most, if not all, of the medical waste incinerators in Nevada have been decommissioned.

Sanitary Sewer

Liquid medical waste can be safely and conveniently disposed in the sanitary sewer at the point of generation. The waste will be biologically treated at the wastewater treatment plant. Unused medications **should not** be disposed of in the sewer because they may not be removed in the wastewater treatment process. Information on the proper disposal of medications can be found at the following link:

http://ndep.nv.gov/bwpc/unused_medications.htm

Alternative treatment technologies

That can also be effective include chemical decontamination and radiation. Because such technologies are relatively new, or may be applied in a variety of ways, the technology owner/operator must demonstrate its effectiveness for approval by the solid waste management authority in order to exempt the waste from the medical waste management standards.

Reference

¹ Agency for Toxic Substances and Disease Registry, US Dept. of Health and Human Services, *The Public Health Implications of Medical Waste: A Report to Congress*, 1990.

² 29 CFR Part 1910.1030: *Occupational Exposure to Bloodborne Pathogens*

Additional information on medical waste management is available at:

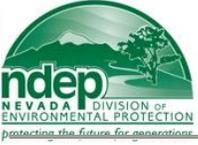
<http://www.epa.gov/epaoswer/other/medical/>

Contacts

For additional information contact the Nevada Division of Environmental Protection, Solid Waste Branch at (775) 687-9462.

In Clark and Washoe Counties contact:

- [Southern Nevada Health District](#) at (702) 759-0600



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- [Washoe County District Health Department](#) at (775) 328-2434

For information concerning the OSHA Bloodborne Pathogens rule, contact the Nevada Division of Industrial Relations, Safety Consultation and Training Section at (775) 688-1474.