CHAPTER 8

MEDICAL WASTE MANAGEMENT

8-1 SCOPE

This Chapter contains criteria for the management of medical waste at medical, dental, and veterinary treatment facilities at the U.S. military installation level in Japan. This includes waste generated in the diagnosis, treatment or immunization of humans or animals, or in the production or testing of biological specimens, subject to certain exclusions. This also includes mixtures of medical waste and hazardous waste at the U.S. military installation level. It does not apply to what would otherwise be classified as household waste.

8-2 DEFINITIONS

8-2.1 Infectious Agent. Any organism (such as a virus or a bacteria) that is capable of being communicated by invasion and multiplication in body tissues and capable of causing disease or adverse health impacts in humans.

8-2.2 Infectious Medical Waste. Solid waste produced by medical and dental treatment facilities which is specially managed because it has the potential for causing disease in humans and may pose a risk to both individuals or community health if not managed properly, and which includes the following classes:

a. Microbiology waste, including cultures and stocks of etiologic agents which, due to their species, type, virulence, or concentration are known to cause disease in humans.

b. Pathology waste, including human tissues and organs, amputated limbs or other body parts, fetuses, placentas, and similar tissues from surgery, delivery or autopsy procedures. Animal carcasses, body parts, blood and bedding are also included.

c. Human blood and blood products (including serum, plasma, and other blood components), items contaminated with liquid or semi-liquid blood or blood products and items saturated or dripping with blood or blood products, and items caked with blood or blood products, that are capable of releasing these materials during handling.

d. Potentially infectious materials including human body fluids such as semen, vaginal secretions, cerebrospinal fluid, pericardial fluid, pleural fluid, peritoneal fluid, amniotic fluid, saliva in dental procedures, any body fluid that is visibly contaminated with blood, and all body fluids in situations where it is difficult or impossible to differentiate between body fluids.

e. Sharps, including hypodermic needles, syringes, biopsy needles and other types of needles used to obtain tissue or fluid specimens, needles used to deliver intravenous solutions, scalpel blades, pasteur pipettes, specimen slides, cover slips, glass petri plates, and broken glass potentially contaminated with infectious waste.

f. Infectious waste from isolation rooms, but only including those items which were contaminated or likely to be contaminated with infectious agents or pathogens to include excretion exudates and discarded materials contaminated with blood.

8-2.3 Non-Infectious Medical Waste. Solid waste created in medical and dental treatment facilities that does not require special management because it has been determined to be incapable of causing disease in humans or which has been treated to render it non-infectious.

8-2.4 Treatment. Any method, technique or process designed to render infectious medical waste non-infectious.

8-3 CRITERIA

8-3.1 All personnel handling infectious medical waste will wear protective apparel or equipment such as gloves, coveralls, mask, and goggles sufficient to prevent risk of exposure to infectious agents or pathogens.

8-3.2 Handling Medical Waste

a. Infectious medical waste will be separated from non-infectious medical waste at the point of origin.

b. Infectious medical waste will be segregated, transported and stored in marked/labelled bags or receptacles a minimum of 3 mils thick having such durability, puncture resistance and burst strength as to prevent rupture or leaks during ordinary use.

c. All bags or receptacles used to segregate, transport or store infectious medical waste will be clearly marked with the universal biohazard symbol and the word "BIOHAZARD," and will include marking that identifies the generator, date of generation and the contents.

d. Sharps will only be discarded into rigid receptacles. Needles shall not be clipped, cut, bent or recapped before disposal.

e. Infectious medical waste will be transported and stored to minimize human exposure to the extent possible, and will not be placed in chutes or dumbwaiters.

f. Infectious medical waste will not be compacted unless converted to non-infectious medical waste by treatment as described in Section 8-3.8. Containers holding sharps will not be compacted.

g. All anatomical pathology waste must be placed in containers lined with plastic bags that comply with Section 8-3.2b and may only be disposed of by incineration or burial.

h. Blood, blood products and other liquid infectious wastes will be handled as follows:

(1) Bulk blood or blood products may only be decanted into clinical sinks, and the emptied containers will continue to be managed as infectious medical waste.

(2) Suction canister waste from operating rooms will either be decanted into a clinical sink or will be sealed into leak-proof containers and incinerated.

8-3.3 Mixtures of Infectious Medical Wastes with Other Substances

a. Mixtures of infectious medical wastes, and hazardous wastes will be handled as infectious hazardous waste under DOD Directive 4160.21M and are the responsibility of the generating DOD component. Priority will be given to the hazard that presents the greatest risk. Defense Reutilization and Marketing Offices (DRMOs) have no responsibility for this type of property.

b. Mixtures of solid waste and infectious medical waste will be handled as infectious medical waste.

8-3.4 Non-Infectious Medical Waste. Non-infectious medical waste that is classified as a hazardous waste in accordance with Appendix A will be managed in accordance with the criteria in Chapter 6.

8-3.5 Radioactive Medical Waste. Radioactive medical waste will be managed in accordance with service directives.

8-3.6 Storage. If infectious medical waste cannot be treated on site, it will be managed during storage as follows:

a. Infectious medical waste will be maintained in a non-putrescent state, using refrigeration as necessary.

b. Storage sites must be:

(1) Specifically designated;

(2) Constructed to prevent entry of insects, rodents and other pests;

(3) Prevent access by unauthorized personnel; and

(4) Marked on the outside with the universal biohazard symbol and the word "BIOHAZARD" in both English and Japanese.

8-3.7 Bags and receptacles containing infectious medical waste must be placed into rigid or semi-rigid, leak-proof containers before being transported off-site.

8-3.8 Infectious medical waste must be treated in accordance with Table 8-1 and the following before disposal:

a. Sterilizers must maintain the temperature at 121^{O}C (250^{O}F) for at least 90 minutes.

b. The effectiveness of sterilizers must be checked at least weekly using Bacillus Stearo Thermophilus spore strips or an equivalent biological performance test.

c. Incinerators used to treat medical waste must be designed and operated to maintain the primary chamber temperature between 1400-1600^{O}F with "starved air" conditions, the secondary chamber temperature between 1800-2000^{O}F with "excess air" conditions, and a minimum residence time in the secondary chamber of 2.0 seconds, sufficient to destroy all infectious agents and pathogens, and must meet applicable criteria in Chapter 2 for air emissions. The 2 seconds residence time in the secondary chamber must be substantiated by monitoring and/or design calculations.

d. Ash or residue from the incineration of infectious medical waste must be assessed for classification as hazardous waste in accordance with the criteria in Chapter 6. Ash that is determined to be hazardous waste must be managed in accordance with Chapter 6. All other residue will be disposed of in a landfill that complies with the criteria of Chapter 7.

e. Chemical disinfection must be conducted using procedures and compounds approved by DOD medical personnel for use on any pathogen or infectious agent suspected to be present in the waste.

f. Off-base disposal: Contractors shall be licensed/permitted by appropriate local city or prefectural authorities.

8-3.9 Contingency Plan. Installations will develop contingency plans for treatment or disposal of infectious medical waste should the primary means become inoperable.

8-3.10 Spill Response. Spills of infectious medical waste will be cleaned up as soon as possible in accordance with the following:

a. Response personnel must comply with handling requirements outlined in Section 8-3.1 above.

b. Blood and body fluid spills must be removed with an absorbent material that must then be managed as infectious medical waste.

c. Surfaces contacted by infectious medical waste must be washed with soap and water and chemically decontaminated in accordance with Section 8-3.8.e above.

8-3.11 Record Keeping and Reporting. Installations will keep records, for at least five years after the date of disposal of the following information concerning infectious medical waste:

a. Type of waste

b. Amount of waste (volume or weight)

c. Treatment, if any, including date of treatment

d. Disposition, including date of disposition, and if the waste is transferred to host nation facilities, receipts acknowledging items a - c above for each transfer

TABLE 8-1
TREATMENT AND DISPOSAL METHODS FOR INFECTIOUS MEDICAL WASTE

Type of Medical Waste	Method of Treatment	Method of Disposal
Microbiological	Steam sterilization Chemical disinfection Incineration	Municipal solid waste landfill (MSLF) (Note 1)
Pathological	Incineration (Note 2) Cremation	MSLF Burial Cremation
Bulk blood	(Note 3)	Domestic wastewater treatment plant
Suction canister waste		Domestic wastewater treatment plant Incineration
Sharps in sharps containers	Steam sterilization Incineration	MSLF

Notes:
1. See Chapter 7 for criteria for solid waste landfills.
2. Placentas may also be ground and discharged to a domestic wastewater treatment plant that complies with the criteria of Chapter 4.
3. Bulk blood known to be infectious must be treated by incineration or steam sterilization before disposal.