Biomedical waste

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Biomedical waste

- Bio-medical waste means any waste (organic or inorganic), which is generated during the diagnosis, treatment or immunization of human beings or animals.
- The wastes which contain pathogens in sufficient concentration or quantity that could cause diseases.

Sources of biomedical waste

- Hospitals
- Nursing homes
- Clinics
- Medical laboratories
- Blood banks
- Mortuaries
- Medical research & training centers
- Biotechnology institution/production units
- Animal houses etc.

Categories of bio-medical waste

Category	Waste Content	Components	Method of treatment and disposal
Category No. 1	Human Anatomical Waste	Human tissues, organs, body parts	Incineration /deep burial
Category No. 2	Animal Waste	Animal tissues, organs, body parts carcasses, bleeding parts, fluid, blood and experimental animals used in research, waste generated by veterinary hospitals colleges, discharge from hospitals, animal, Houses	Incineration /deep burial
Category No 3	Microbiology & Biotechnology Waste	Wastes from laboratory cultures, stocks or specimens of micro-organisms live or attenuated vaccines, human and animal cell culture used in research and infectious agents and industrial laboratories, wastes from production of biologicals, from research toxins, dishes and devices used for transfer of cultures	Local autoclaving/ micro waving/ incineration

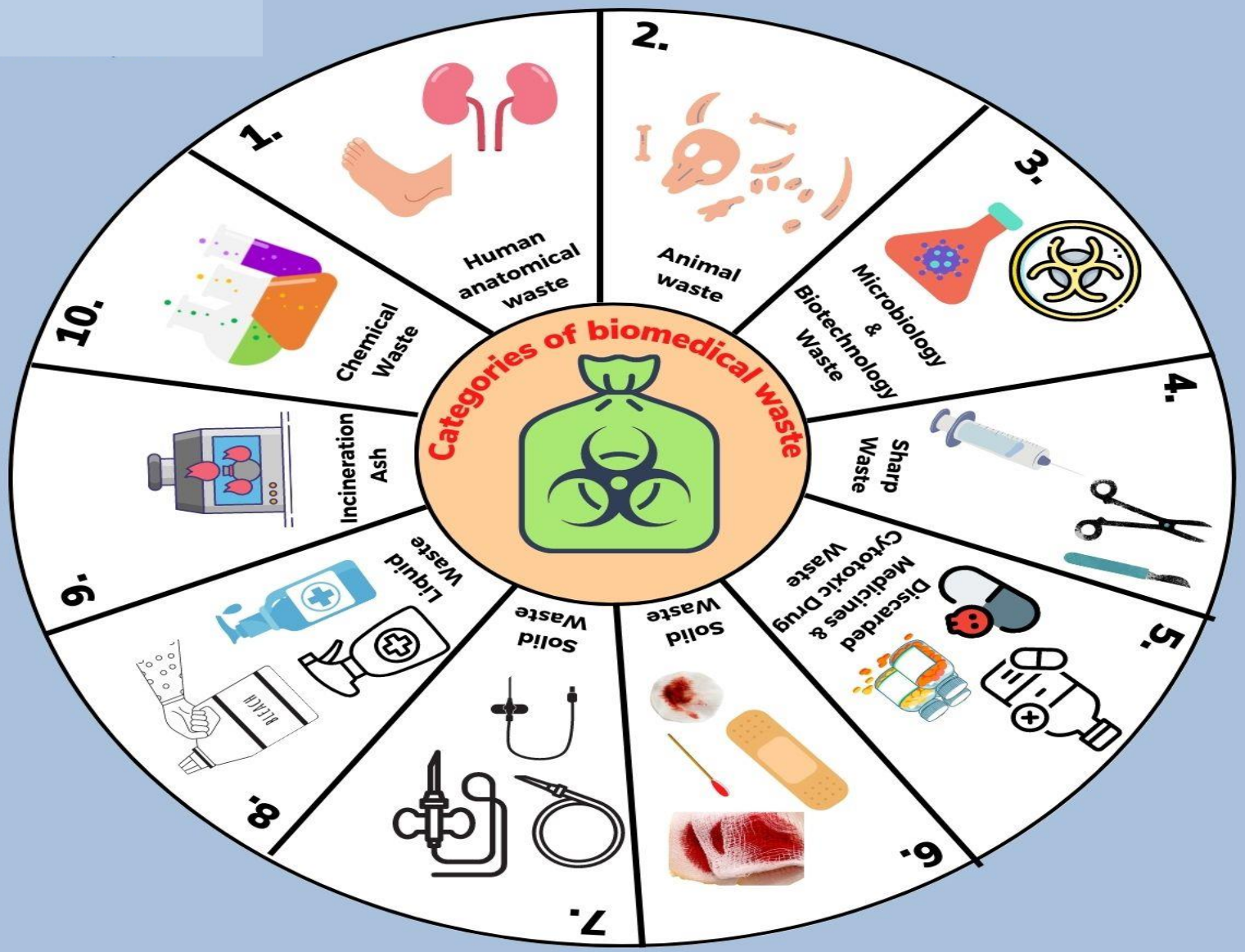
Categories of bio-medical waste

Category No. 4	Waste sharps	Needles, syringes, scalpels, blades, glass, etc. that may cause puncture and cuts. This includes both used and unused sharps	Disinfections chemical treatment /autoclaving/micro waving and mutilation shredding
Category No. 5	Discarded Medicines and Cytotoxic drugs	Wastes comprising of outdated, contaminated and discarded medicines	Incineration / destruction & drugs disposal in secured landfills
Category No. 6	Solid Waste	Items contaminated with blood, and body fluids including cotton, dressings, soiled plaster casts, lines, beddings, other material contaminated with blood	Incineration , autoclaving/ micro waving
Category No. 7	Solid Waste	Wastes generated from disposable items other than the waste sharps such as tubing's, catheters, intravenous sets etc	Disinfections chemical treatment /autoclaving/micro waving and mutilation shredding

Categories of bio-medical waste

Category No. 8	Liquid Waste	Waste generated from laboratory and washing, cleaning, house-keeping and disinfecting activities	Disinfections by chemical treatment and discharge into drains
Category No. 9	Incineration Ash	Ash from incineration of any bio-medical waste	Disposal in municipal landfill
Category No. 10	Chemical Waste	Chemicals used in production of biologicals, chemicals used in disinfection, as insecticides, etc	Chemical treatment and discharges into drains

(Source- The Bio Medical Waste (Management and Handling) Rules, 1998)


Categories of biomedical waste
1.
Human anatomical waste
2.
Animal waste
3.
Microbiology & Biotechnology Waste
4.
Sharp Waste
5.
Discarded Medicines & Cytotoxic Drug Waste
6.
Solid Waste
7.
Solid Waste
8.
Liquid Waste
9.
Incineration Ash
10.
Chemical Waste

Categories of bio-medical waste

OPTION	WASTE CATEGORY	TREATMENT & DISPOSAL
Category No. 1	Human Anatomical Waste	Incineration / deep burial
Category No. 2	Animal Waste	Incineration / deep burial
Category No. 3	Microbiology & Biotechnology Waste	Local autoclaving / microwaving / incineration
Category No. 4	Waste Sharps	Disinfection by chemical treatmet / atoclaving / microwaving and mutilation / shredding
Category No. 5	Discarded Medicines and Cytoxic drugs	Incineration / destruction and drugs disposal in secured landfills

Categories of bio-medical waste

Category No. 6	Solid Waste	Incineration / autoclaving / microwaving
Category No. 7	Solid Waste	Disinfection by chemical treatment / autoclaving / microwaving and mutilation / shredding
Category No. 8	Liquid Waste	Disinfection by chemical treatment and discharge into drains.
Category No. 9	Incineration Ash	Disposal in municipal landfill
Category No. 10	Chemical Waste	Chemical treatment and discharge into drains for liquids and secured land for solids

Biomedical waste Management

Biomedical waste segregation

Reference

- Antoniadou, Maria & Varzakas, Theo & Tzoutzas, Ioannis. (2021). Circular Economy in Conjunction with Treatment Methodologies in the Biomedical and Dental Waste Sectors. Circular Economy and Sustainability. 1. 1-30. 10.1007/s43615-020-00001-0.

Thank you