

# Hospital waste management

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## What are Biomedical wastes?

Biomedical wastes are defined as waste that is generated during the diagnosis, treatment or immunization of human beings or animals, or in research activities pertaining thereto, or in the production of biologicals.

1. What is the quantum of waste that is generated by a hospital?

# Effects of poor health care waste management?

1. Organic portion ferments and attracts fly breeding
2. Injuries from sharps to all categories of health care personnel and waste handlers





Who are the persons at risk of the hazards  
of medical procedures?

# Types of Waste

- Non-medical waste (or non-hazardous waste)
- Medical waste (hazardous waste)
  - Infectious waste
  - Anatomic wastes
  - Sharps waste
  - Chemical waste
  - Pharmaceutical waste
  - Genotoxic waste
  - Radioactive materials



1. What are biodegradable and non biodegradable wastes?

# Establishing a Waste Management Plan??

- Sorting,
- Handling,
- Storage,
- Disposal



# **Segregation of Bio-medical Wastes**

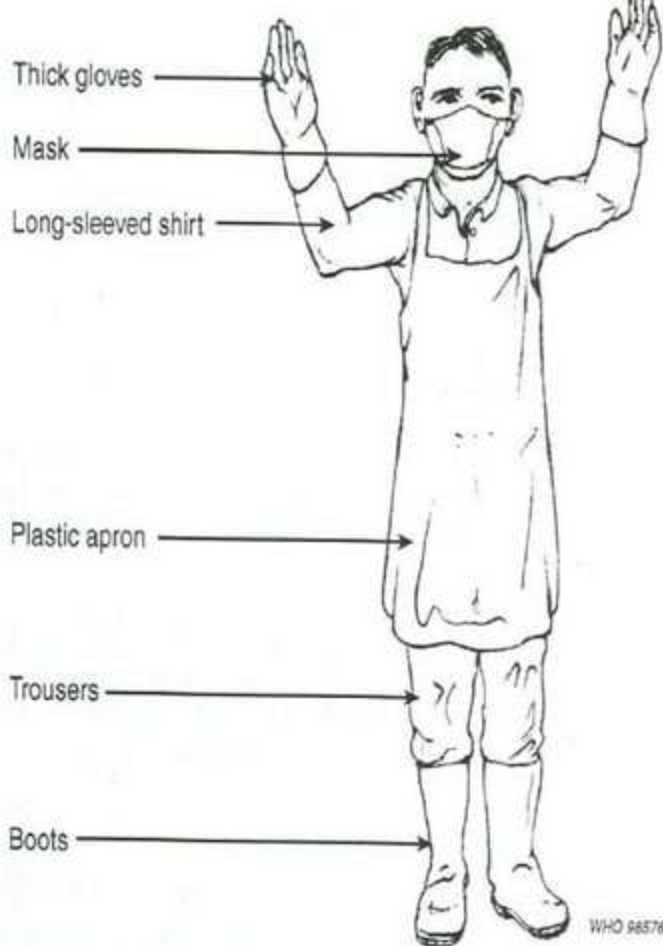
<b>Bags/Bins</b>	<b>Type of wastes</b>
<b>Yellow Bags</b>	Anatomical waste
<b>Red Bags</b>	Infectious wastes
<b>Blue/White Puncture proof containers</b>	Sharp wastes
<b>Black bins</b>	For normal MSW/ kitchen wastes

### Colour Coding and Type of Container

Colour Coding	Type of Container	Waste Category	Treatment options (Schedule I)
Yellow	Plastic bag	Cat.1,Cat.2, Cat.3 and Cat.6	Incineration/ deep burial
Red	Disinfected container/plastic bag	Cat.3, Cat.6, and Cat.7	Autoclaving/Micro waving/ Chemical treatment
Blue/ White Translucent	Plastic bag/ puncture proof container	Cat.4 and Cat.7	Autoclaving/Micro waving/ Chemical treatment and destruction/ shredding
Black	Plastic bag	Cat.5, Cat.9, and Cat.10 (solid)	Disposal in secured landfill

- Untreated waste should not be stored beyond a period of 48 hours.







- **Hospital Waste Management Committee**
- **TRAINING ON HOSPITAL WASTE MANAGEMENT**



Segregated incinerable wastes kept in Yellow coloured bag



Segregated Autoclavable wastes kept in Blue coloured bag



General wastes of health care unit kept in Black coloured bag



Mechanical needle cutter



Electrical needle destroyer

CYTOTOXIC HAZARD SYMBOL

कोषिकाविष परिसंकेत चिन्ह



CYTOTOXIC

कोषिकाविष







Waste handling at Common facility

1. How is disinfection of the various items commonly used in the hospital carried out?

2. What are disinfection and sterilization?

- Disinfection  sterilization





- What are the rules and regulations governing the disposal of these wastes?

Biomedical Wastes (Management & Handling) Rules, 1998. under the Environment (Protection) Act, 1986.

1. What are the different hospital waste categories?

<b>Waste Category</b>	<b>Type of waste</b>	<b>Treatment And Disposal Option</b>
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 and colleges, discharge from hospitals, animal houses)	Incineration/ deep burial

Category No. 3	Microbiology & Biotechnology Waste (Wastes from laboratory cultures, stocks or specimen of live micro organisms or attenuated vaccines, human and animal cell cultures used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins and devices used for transfer of cultures)	Local autoclaving/ microwaving / incineration
Category No. 4	Waste Sharps (Needles, syringes, scalpels, blades, glass,	Disinfecting (chemical treatment / autoclaving / microwaving and mutilation / shredding
Category No. 5	Discarded Medicine and Cytotoxic drugs (Wastes comprising of outdated, contaminated and discarded medicines)	Incineration / destruction and drugs disposal in secured landfills

Category No. 6	Soiled Waste (Items contaminated with body fluids including cotton, dressings, soiled plaster casts, lines, bedding and other materials contaminated with blood.)	Incineration / autoclaving / microwaving
Category No. 7	Solid Waste (Waste generated from disposable items other than the waste sharps such as tubing, catheters, intravenous sets, etc.)	Disinfecting by chemical treatment/ autoclaving / microwaving and mutilation / shredding
Category No. 8	Liquid Waste (Waste generated from the laboratory and washing, cleaning, house keeping and disinfecting activities)	Disinfecting by chemical Treatment and discharge into drains

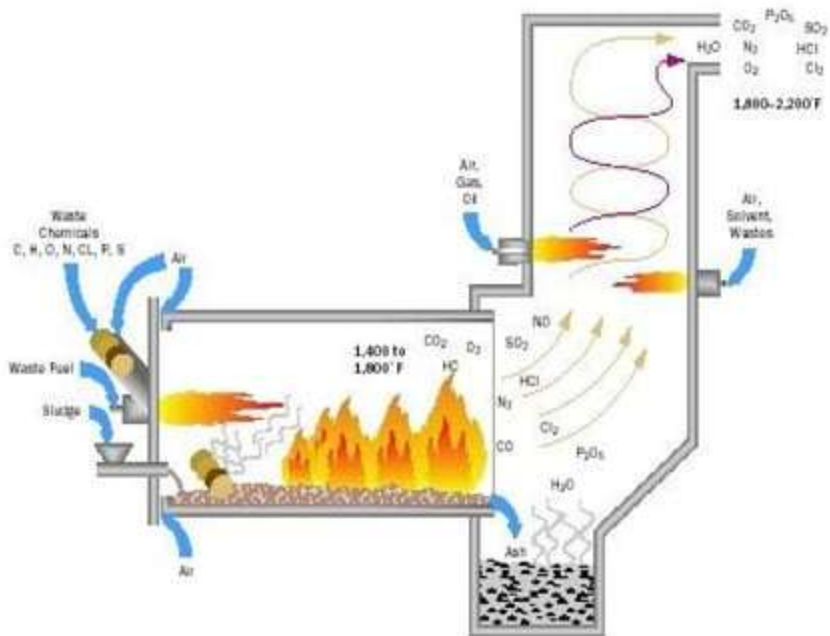
Category No. 9	Incineration Ash (Ash from incineration of any biomedical waste)	Disposal in municipal landfill
Category No.10	Chemical Waste (Chemicals used in production of biological, chemicals used in disinfecting, as insecticides, etc.)	Chemical treatment and discharge into drains for liquids and secured landfill for solids.

Standby  
Autoclave



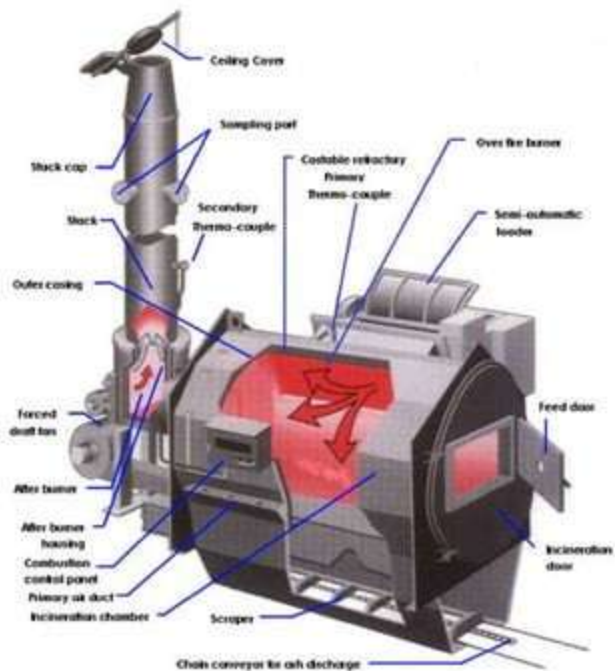
Waste Autoclave

# ROTARY KILN—AFTERBURNER





## Incinerator





- *We all hold the earth in trust for Future Generation..*