



BOOKLET-2

AN ORIENTATION EDUCATION ON BIO-MEDICAL WASTE MANAGEMENT

By

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NATIONAL ENVIRONMENT AWARENESS CAMPAIGN 2005-06
Solid Waste Management

“HEALTH CARE WASTE MANAGEMENT: CONCEPTS, TECHNOLOGIES AND TRAINING - BASIC RESOURCE MATERIAL ”

NEED OF THE HOUR :

- ✓ Effective Solid Waste & Bio- Medical Waste Management is the need of the Hour today. Solid waste is infectious or Non-infectious in nature.
- ✓ These two categories of Waste require distinct Waste Management options.
- ✓ WASTE SEGREGATION IS THE KEY TO WASTE MANAGEMENT.

WHY THE SOME PEOPLE KEPT CLEAN AND SOME ARE NOT ?

The reasons are -

- Lack of Resources e.g. Finance
- Lack of equipment like bins, trolleys, broom, buckets
- Lack of knowledge, Training
- Lack of attitude
- Scarcity of Water
- Lack of Monitoring by senior officers

THEN WHAT WE CAN DO ?

- The Institute shall develop the SWOT analysis i.e.
- STRENGTHS, WEAKNESS, OPPORTUNITES AND THREATS ANALYSIS of picture of Waste Management facilitate to change the Attitudinal Change on Staff..

WHAT IS THE DEFINITION OF BIO-MEDICAL WASTE ?

- ❖ Health care waste is defined as, the waste resulting from patient's diagnosis, prevention, research and treatment procedures as well as waste generated from all other health care establishments, research facilities and laboratories.
- ❖ Bio-Medical waste has been defined under Indian Gazette of Bio-Medical Waste (Management and Handling) Rules 1998 as any waste

which is generated during the diagnosis, treatment and immunization of human beings or animals in research activities pertaining thereto or in the production or testing of biological and includes categories mentioned 1-10 waste categories as per Indian Authorities.

WHAT IS THE CATEGORIZATION OF WASTE AS PER INDIAN AUTHORITIES ?

OPTION	WASTE CATEGORY / CLASS	TREATMENT AND DISPOSAL
CATEGORY – 1	HUMAN ANATOMICAL WASTE (Human tissues, organs, body parts)	Incineration / Deep burial
CATEGORY – 2	ANIMAL WASTE (Animal tissues, organs, body parts, carcasses, bleeding parts, fluid, blood and experimental animals used in research, Waste generated by veterinary hospitals, discharge from hospitals, animal houses)	Incineration / Deep burial
CATEGORY – 3	MICRO BIOLOGY AND BIOTECHNOLOGY WASTE : (waste from laboratory cultures, stocks or specimens or micro-organisms, live or attenuated vaccines, human and animal cell or culture used in research and infectious agents from research and industrial laboratories, wastes from production of biologicals, toxins, dishes and devices used for transfer of cultures).	Dis-infection (chemical treatment / autoclaving / micro waving and mutilation / shredding)
CATEGORY – 4	WASTE SHARPS : (needles, syringes, scalpels, blades, glass etc. that may	Disinfection (Chemical treatment / autoclaving / microwaving and mutilation)

	cause puncture and cuts. This includes both used and unused sharps)	/ shredding)
CATEGORY – 5	DISCARDED MEDICINES AND CYTOTOXIC DRUGS : (Waste comprising of outdated, contaminated and discarded medicines)	Incineration/destruction and drugs disposal in secured landfills.
CATEGORY – 6	SOILED WASTE : (items contaminated with blood and body fluids including cotton, dressings, soiled plaster casts, linen beddings, other material contaminated with blood)	Incineration/autoclaving / micro-waving.
CATEGORY – 7	SOLID WASTE : (Waste generated from disposal items other than the waste sharps such as tubing, catheter, intravenous sets etc)	Disinfection by chemical treatment/autoclaving/micro-waving and mutilation / shredding.
CATEGORY – 8	LIQUID WASTE : (waste generated from laboratory and washing, cleaning, housekeeping and disinfecting activities)	Disinfection by chemical treatment and discharge into drains.
CATEGORY – 9	INCINERATION ASH : (ash from incineration of any biomedical waste)	Disposal in municipal landfill.
CATEGORY–10	CHEMICAL WASTE : (Chemicals used in production of bio-logicals, chemicals used in disinfection, as insecticides etc..)	Chemicals treatment and discharge into drains for liquids and secured landfill for solids.

NOTE : 1. Deep burial shall be an option available only in towns with population less than 5 lakhs and in rural areas. **2.** Chemical treatment using at least 1% hypochlorite solution or any other equivalent chemical reagent. **3.** Multilation / shredding must be such so as to prevent unauthorized **reuse**.

WHAT HAPPENS IF WE DO NOT MANAGE WASTE PROPERLY ?

- Hazards to different health care workers, patients and the community due to waste.
- Soil, Water and Air pollution caused by health care waste.
- Hazards to patients, relatives of patients, health care staff, Community in general and reactions as well as Fire Hazards.

WHAT IS INFECTED WASTE ?

- Waste that is capable of transmitting infection is infectious waste.

DO YOU KNOW – WHAT DISEASES CAN BE OCCUR IF WE HANDLE INFECTED WASTE WITH BARE HANDS ?

- ❖ Injuries to staff.
- ❖ Hepatitis – B & C
- ❖ AIDS.

HOW THIS CAN BE PREVENTED ?

- @ Segregation and containment at source.
- @ Use of protective devices : Gloves / boots / masks / Apron.
- @ Managing liquid waste spills properly.
- @ Taking immunization.
- @ Proper treatment and disposal of Waste.

IS HAND WASHING COMPULSORY ?

Hand washing i.e. SOAP (soap, powdered soap, liquid soaps) and Water without a germicide. In high Risk areas i.e. Operation Theatre (OT), Intensive Care Unit (ICU) and Laboratory. Use soap containing Chloride / iodophor. Alcohol can be used if soap is not available. Glycerine can be used subsequently.

WHAT ARE THE OTHER TOOLS FOR SAFE PRACTICE ?..

Use of Gloves, Mask, boots, disinfection, practice of Universal precautions constitute barrier for transmission of infection.

- **SEGREGATION AT RESOURCE POINT IS COMPULSORY.**
- **PROPER COLLECTION AND STORAGE IN DIFFERENT COLOR CODE AS PRESCRIBED BY MINISTRY OF ENVIRONMENT & FORESTS, GOVT. OF INDIA, NEW DELHI & OTHER AUTHORITIES.**
- **TRANSPORTATION FACILITY MUST BE TAKE CARE.**
- **BE CARE WITH WHILE HANDLING WITH SHARPS, METAL SHARPS, GLASS, PLASTIC, LIQUID WASTES...**
- **FINALLY MAINTAIN CLEAN IN HOUSE KEEPING, RECORD KEEPING.**
- **EDUCATE TO ALL THE HEALTH CARE STAFF ABOUT THEIR DUTIES ABOUT SAFETY MEASURES ON BIO-MEDICAL WASTES.**

REFUSE.....REDUCE..... REUSE..... RECYCLE.....

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