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MANAGEMENT OF MEDICAL AND DENTAL WASTE

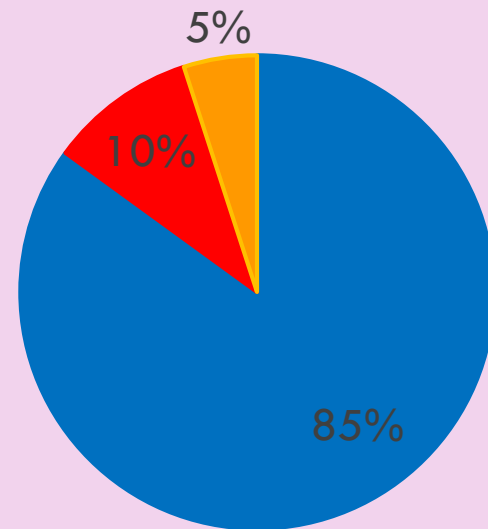
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INTRODUCTION

- MEDICAL WASTE IS WASTE GENERATED IN MEDICAL AND HEALTH INSTITUTIONS AND POSES A RISK TO THOSE WHO CREATED, PACKAGED, STORED, TRANSPORTED, TREATED AND PERFORMED THE DISPOSITION. THE MANAGEMENT OF MEDICAL WASTE IS AN ORGANIZED PROCESS THAT CONSISTS OF FIVE ELEMENTS: SEPARATION; IDENTIFICATION; HANDLING; TREATMENT AND DISPOSITION.
- CLINICAL WASTE IS DEFINED AS 'ANY WASTE WHICH CONSISTS WHOLLY OR PARTLY OF HUMAN OR ANIMAL TISSUE, BLOOD OR OTHER BODY FLUIDS, EXCRETIONS, DRUGS OR OTHER PHARMACEUTICAL PRODUCTS, SWABS OR DRESSINGS, SYRINGES, NEEDLES OR OTHER SHARP INSTRUMENTS'. THIS TYPE OF WASTE MAY PROVE HAZARDOUS TO ANY PERSON COMING INTO CONTACT WITH IT UNLESS IT IS RENDERED SAFE.

COMPONENTS OF HEALTH CARE WASTE (WHO 1999)

COMPONENTS OF HEALTH CARE WASTE



■ General Non - Infectious Waste ■ Infectious waste ■ Hazardous/Chemical/R adioactive Waste

WHO, Regional Workshop on Hospital Waste Management and Hospital Infection Control. WHO Project: INDEHH001. Government Medical College and Hospital, Nagpur, India, Nov. 18-20, 1999, p.6

BIOMEDICAL WASTE

- BIOMEDICAL WASTE IS DEFINED AS “ANY SOLID, FLUID AND LIQUID OR LIQUID WASTE, INCLUDING ITS CONTAINER AND ANY INTERMEDIATE PRODUCT, WHICH IS GENERATED DURING THE DIAGNOSIS, TREATMENT OR IMMUNISATION OF HUMAN BEING OR ANIMALS, IN RESEARCH PERTAINING THERETO, OR IN THE PRODUCTION OR TESTING OF BIOLOGICALS AND THE ANIMAL WASTE FROM SLAUGHTER HOUSES OR ANY OTHER SIMILAR ESTABLISHMENT”. ALL BIOMEDICAL WASTES ARE HAZARDOUS. ACCORDING TO WHO, NEARLY 85% OF ALL WASTE GENERATED BY HOSPITAL IS GENERAL WASTE.
- ABOUT 15% WASTE IS BIO-MEDICAL WASTE, WHICH INCLUDES:
 - INFECTIOUS WASTE - 10%.
 - NON-INFECTIOUS WASTE SUCH AS RADIOACTIVE AND
 - CHEMICAL WASTES - 5%.

MEDICAL WASTE

- MEDICAL WASTE IS LIMITED TO INFECTIOUS, HAZARDOUS, AND ANY OTHER WASTES THAT ARE GENERATED FROM HEALTH CARE INSTITUTIONS, SUCH AS HOSPITALS, CLINICS, DENTAL OFFICES, AND MEDICAL LABORATORIES [2]. THE
- MANAGEMENT OF MEDICAL WASTE HAS BEEN OF MAJOR CONCERN DUE TO POTENTIALLY HIGH RISKS TO HUMAN HEALTH AND THE ENVIRONMENT. IN THE PAST, MEDICAL WASTES WERE OFTEN MIXED WITH HOUSEHOLD WASTES AND DISPOSED IN MUNICIPAL SOLID WASTE LANDFILLS.

- THE BIOMEDICAL WASTE POSES RISK OF HAZARDS DUE TO SHARPS, RECYCLING OF DISPOSABLES, AIR, WATER, SOIL POLLUTION ETC. THIS REQUIRES SPENDING OF SO MANY RESOURCES IN TERMS OF MONEY, MANPOWER, MATERIAL AND MACHINE FOR MANAGEMENT OF HOSPITAL WASTE.
- ALL OFFICIALS, MEDICAL, PARAMEDICAL STAFF, ATTENDANTS, AND ALSO GENERAL PUBLIC SHOULD BE WELL ORIENTED TO THE BIOMEDICAL WASTE MANAGEMENT RULES SO THAT ADVERSE EFFECTS TO HUMAN HEALTH AND ENVIRONMENT ARE AVOIDED.

HAZARDOUS WASTE

- WASTE IS DEFINED AS 'HAZARDOUS' WHEN THE WASTE ITSELF OR THE MATERIAL OR SUBSTANCES IT CONTAINS ARE HARMFUL TO HUMANS OR THE ENVIRONMENT. THE OTHER MAIN WASTE STREAM IS KNOWN AS OFFENSIVE WASTE, WHICH PRIMARILY CONTAINS WASTE THAT IS CONSIDERED UNPLEASANT DUE TO ITS APPEARANCE AND SMELL, FOR INSTANCE INCONTINENCE WASTE.



Infectious waste,
Bandages, cotton,
Body parts and
Placenta

Infected Dressing,
POP casts

Gloves , syringes &
Plastic waste.

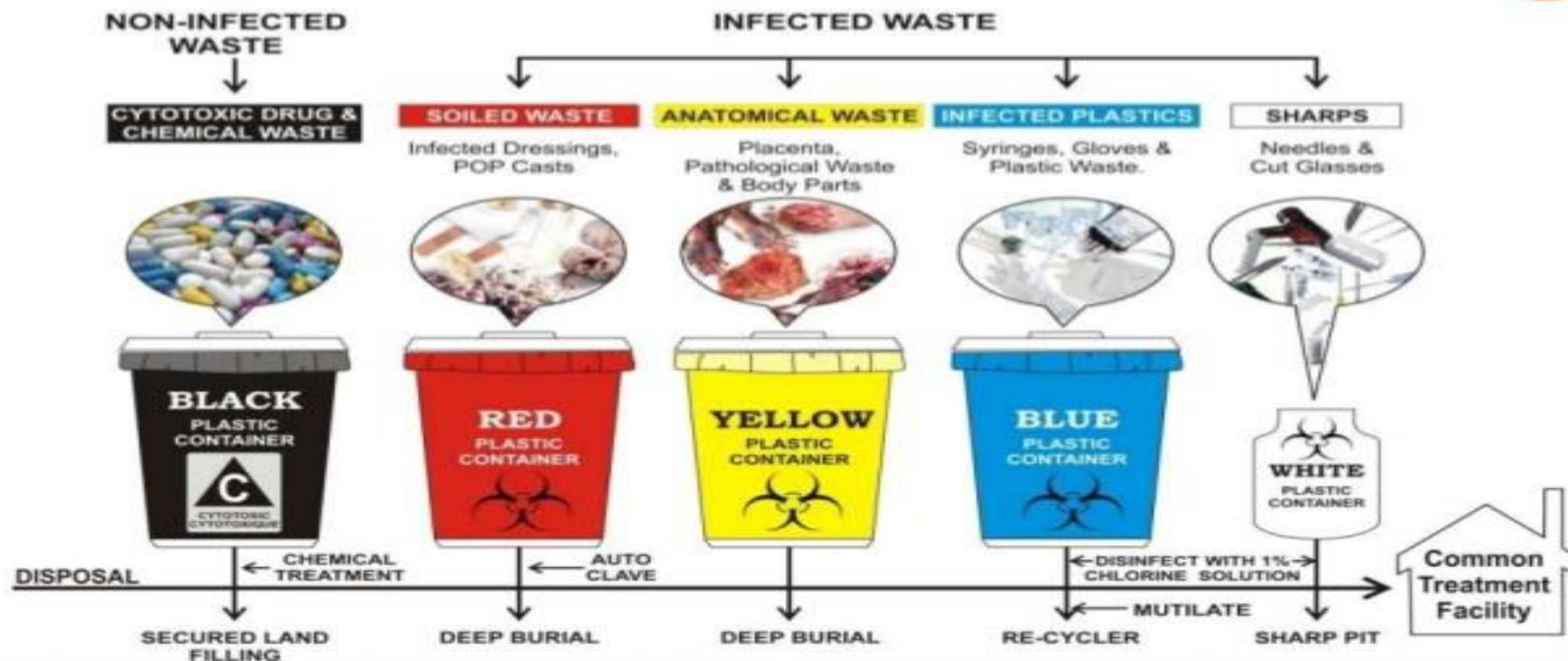
Cytotoxic drug &
Chemical Waste

Needles, and
Cut glasses

SEGREGATION OF BIOMEDICAL WASTE WITH COLOUR CODED BAGS



SEGREGATION OF SOLID BIO-MEDICAL WASTE



NOTE:- USE ANY COLORED BIN OTHER THAN BLACK, RED, YELLOW, BLUE & WHITE FOR DISPOSAL OF GENERAL WASTE

SEGREGATION OF WASTE IN COLOR CODED BAGS

SEGREGATION OF WASTE IN COLOR CODED BAGS			
BLACK CARBOY	BLUE BAGS	RED BAGS	YELLOW BAGS
Needles without syringes, blades, sharps and metal articles	All types of glass bottles and broken glass articles outdated & discarded medicines	Plastic waste such as catheters, injections, syringes, tubings i.v. bottles	Infectious waste, bandage, gauzes, cotton, or any other things in contact with body fluids, human body parts, placenta

SEGREGATION OF WASTE IN COLOR CODED BAGS

([HTTP://IMAGE.SLIDESHARECDN.COM/24-130728052340-PHPAPP02/95/Biomedical-Waste-Management-DrPaveen-Doddamani-56-638.JPG?CB=1374989196](http://image.slidesharecdn.com/24-130728052340-PHPAPP02/95/Biomedical-Waste-Management-DrPaveen-Doddamani-56-638.JPG?CB=1374989196))

MEDICAL WASTE CONTAINERS



ADOPTED FROM:

[HTTPS://WWW.GOOGLE.COM/SEARCH?Q=MEDICAL+WASTE&SOURCE=LNMS&TBM=ISCH&SA=X&VED=0AHUKEWIO5ISKRN_KAHUQ73IKHTEQB6QQ_AUICCGC&BIW=1280&BIH=655#TBM=ISCH&Q=MEDICAL+WASTE+BIN&IMGRC](https://www.google.com/search?q=medical+waste&source=lnms&tbm=isch&sa=x&ved=0AHUKEWIO5ISKRN_KAHUQ73IKHTEQB6QQ_AUICCGC&biw=1280&bih=655#tbm=isch&q=medical+waste+bin&imgc)

TREATMENT OF MEDICAL WASTE

- THE PRIMARY METHODS OF TREATMENT AND DISPOSAL OF MEDICAL WASTE ARE:
- INCINERATION
- AUTOCLAVES
- MECHANICAL/CHEMICAL DISINFECTION
- MICROWAVE
- IRRADIATION

CONCLUSION

- FIRSTLY, IT'S IMPORTANT TO CLEARLY DEFINE THE RESPONSIBILITY FOR PROPER WASTE MANAGEMENT, TO THE PROCESS OF ITS FINAL PROCESSING. IT IS NECESSARY TO DEVELOP A COMPREHENSIVE AND PLANNED MANAGEMENT SYSTEM THAT BESIDE RESPONSIBILITY, SHOULD PROVIDE FUNDS FOR SAFE IMPLEMENTATION OF WASTE. THIS IS A LONG PROCESS THAT DESPITE ORGANIZATIONAL STRUCTURE REQUIRES INDIVIDUAL AND PROFESSIONAL COMMITMENT. UNACCEPTABLE, BUT STILL A FACT IS THAT MEDICAL WASTE FROM SOME HEALTH INSTITUTIONS (MOSTLY SMALLER PRIVATE CLINICS), WITHOUT SPECIAL LABELS ARE TAKEN FROM THE RELEVANT MUNICIPAL DEPARTMENTS AND WITH MUNICIPAL WASTE IS DISCHARGED IN URBAN LANDFILLS WITHOUT SPECIAL PROCESSING.
- BIO-MEDICAL WASTE MANAGEMENT PROGRAM CANNOT SUCCESSFULLY BE IMPLEMENTED WITHOUT THE DEVOTION, SELF-MOTIVATION, WILLINGNESS, COOPERATION AND PARTICIPATION OF ALL SECTIONS OF EMPLOYEES OF ANY HEALTH CARE ESTABLISHMENT.