ALL INDIA INSTITUTE OF MEDICAL SCIENCES, NEW DELHI

MANUAL FOR BIO MEDICAL WASTE MANAGEMENT

AIIMS Bio-medical Waste Management Manual

Dedication:

For sure, to AIIMS we dedicate this document, but to those as well, who serve and breath life into the monument:

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Director's Message

It is indeed a matter of great collective pride for the staff at AII India Institute of Medical Sciences, New Delhi that we are the first tertiary Hospital to be provided the authorization under the Bio-medical Waste Management Rules 2016 as well as Consent to Operate under Air and Water Act. The rules describe the Director as the Occupier; for an Institution as large as AIIMS, the role brings with it the responsibility and accountability to implement the mandatory rules effectively.

I find this manual, timely and essential. Though rules define practices, their implementation is always a challenge and institutional adaptability and adjustment needs a ready guide. The Department of Hospital Administration has effectively and efficiently implemented all the aspects of the rules, the authorization being the validation. The AIIMS manual for Bio Medical Waste management completes the picture.

I am aware of challenges that Bio-medical Waste Management entails; need for constant reiteration, turnover of staff, to a few, a fringe element in clinical care, covert ill effects of poor practices and a large hospital with varied cadre of staff are all a reality. Thus, against such a backdrop, I am confident that this manual will be very handy. I am delighted by the ready-reckoner-like feel of the manual, with illustrations, diagrams and fact bubbles. I am also happy to observe that all cadre of staff have been addressed since segregation involves all the staff at AIIMS.

AIIMS through its Clean & Green AIIMS campaign and guideline booklet has always been a torch bearer of Sanitation. The awards and accolades have helped it to strive for even greater heights. Bio medical waste management is an important key result area of the campaign and I am sure that this manual is another feather in its already crowded cap.

Prof. Randeep Guleria
Director AIIMS

From the Desk of the Medical Superintendent:

A Foreword on an afterthought:

The Bio-medical Waste Management Rules 2016 has been a long-awaited updated version of the 1998 rules; the mushrooming of health care industry within the milieu of the country coinciding with the drift towards greater environmental consciousness and greater accountability. The new rules bring in several significant changes, primarily at reducing errors (by decreasing the number of categories from 10 to 4), increasing the accountability of both the occupier and the common Bio Medical Waste treatment facility operator and bringing the concept of reduce, recycle & reuse to the fore. Some of the significant changes include phasing out of chlorinated material, training, immunization, bar-coding of waste, pre-treatment of laboratory waste and stricter norms for treatment and disposal.

Occupational safety finds its rightful place in these rules as also accountability through bar-coding systems, web-site based reporting and a well-defined section of Occupier & CBTFW operators' responsibilities. A much-needed thrust to environmental protection has been provided through a section that elucidate such standards in disposal through incinerators and autoclaves to be followed by the common Bio Medical Waste treatment and disposal facility operators.

In a significant development, the consent to operate has been linked to the Bio Medical Waste Rules thereby viewing the healthcare organization as a single entity from the prospective of the pollution control board. However, this makes procedures such as authorization, renewals and consent to operate a bit more challenging with Bio Medical Waste linked to functioning of the sewage treatment plant, effluent treatment facilities as well as the operation of equipment such as diesel generator and boilers. Due importance has been given laboratory waste by mandating onsite treatment. Cytotoxic waste, an important issue in the content versus container debate, has also been addressed.

This is what makes this manual a contemporary requirement to a hospital as vast as AIIMS. It is with a certain sense of pride that I wish to state that AIIMS is the first public hospital in India to have obtained its consent to operate and the renewal of Bio-medical Waste authorization under the new rules.

The paradigm shift brought about by the new rules makes this manual an important ready reckoner for all the health care workers of the hospital. Indeed, this manual is designed in a format to help all cadre of Healthcare workers at AIIMS.

The manual thus progresses from a topical view of AIIMS from the perspective of BMW mgmt to the salient features of the rules and its implication to AIIMS. The next chapter deals with the subtler processes and procedures unique to Bio medical waste management AIIMS. An illustrative guide is an easy way for a lay reader to under the most important part of the rules-segregation. The section for sanitation staff is drafted appropriately, in Hindi. Finally, the last chapter delineates clearly the roles and responsibilities of each cadre of healthcare worker, including sanitation staff, infection control nurses and Hospital Administrators.

Bio Medical Waste is often considered as an afterthought, an overlooked by product of healthcare, physically and metaphorically relegated to the sidelines. However, I am confident that this manual will significantly contribute to the greater visibility brought about by the new rules by assigning bio medical waste management its rightful place, as an important facet of effective patient care management with far reaching healthcare and legal implications.

As the Medical Superintendent of a premier healthcare organisation, I am aware that appropriate Bio Medical Waste management practice need constant reiteration to move it from the realm of practice to the zone of a habit. I am confident that this Bio Medical Waste manual would be an effective tool to that end.

Dr. D.K. Sharma
Medical Superintendent

Acknowledgement

Drafting the acknowledgement section of any document is often a risky preposition, fraught with the danger of excluding the names of people whose contribution has been significant and deserves a mention. Thus a disclaimer is an order.

However, a manual of this nature would remain incomplete without a note of gratitude. The authors are indebted to the Director, AIIMS for lending his guiding hand in implementation of the rules. We are indeed delighted that this manual is being released by the Director, AIIMS in the capacity of the occupier, and we hope the manual has shaped up to his expectations.

The Medical Superintendent as a key stakeholder in implementation of the Bio-medical Waste Management Rules 2016 had first conceived the idea of a manual as a handbook for all AIIMS staff. Thus we are grateful to him for not only sowing the seeds of the idea in our minds, but also helping us nurture it. Personifying an ideal boss, he has allowed ideas to be generated and empowered his subordinates to implement the rules and positively influencing its outcome, this manual.

The faculty and residents of Department of Hospital Administration have always been at the forefront of effective implementation of practices. Needless to say, this manual is a culmination of their efforts in implementation of the rules. To that end, this manual, is a documented testimony to the correct practices that are already in place. These practice are thus a reflection of the efforts of the department.

Thus, Bio Medical Waste management practices have been honed, corrected, reiterated, improved and implemented over several years of hard work. Therefore, gratitude should also be expressed to the Officer In-Charges of Bio-medical Waste Management in the past for passing on a better and more refined baton to their successors. We would like to express our gratitude to Officers – in-charge Bio-medical Waste Management. in the years gone by, Prof. Sidhartha Satpathy, Prof. Sanjay Arya and Dr. Amit Lathwal for having handled Bio Medical Waste management adroitly at some of the crucial stages of implementation resulting in the current status of Bio Medical Waste management culminating in this manual.

We thank the infection control committee and in particular, the infection control nurses who are an important stakeholder of the implementation structure and have made valuable contribution to this manual. Finally, we also like to express our gratitude to all the healthcare workers at AIIMS who have made this manual a reality and to whom this manual is dedicated as an intended reading and handy companion.

FIRST AMONG EQUALS!!

AIIMS, New Delhi is the first public hospital in India to be authorized under the Bio-medical Waste Management Rules-2016 !

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Chapter I:

The Bio-medical Waste Management manual: A sneak preview

"A sneak preview should be like a good book review, generating enough curiosity to read the book without giving the plot away!"

A manual on Bio-medical Waste Management must tread the fine path of not becoming a text book while imparting knowledge in a ready- to-use customized manner and manage to keep the reader engaged. Thus, not all portions are relevant for all cadre of staff , though staff such as residents of Deptt. of Hospital Admn., and Infections control nurses must be aware of all the aspects on the manual. A brief preview will aid the reader:-

Chapter II: Introduction

The first Chapter provides a brief introduction to AIIMS and gives global perspective on Bio-medical Waste and its burden. An organogram from the perspective of BMW mgmt. provides a visual understanding the reporting channel under the Occupier–the AIIMS Director. The important aspect of Environmental impact and legal implications of Bio medical waste is briefly touched upon to lay emphasis on these important aspects.

Chapter III: Bio-medical Waste Management rules 2016, salient features and its implication on AIIMS

As the Bio-medical Waste Management rules 2016 are bedrock of correct practices, this chapter enumerates the salient features of rules 2016 and its implication on AIIMS. Thus, clauses such as change in colour, cardboard boxes of glassware, hub cutter, bar coding, lab waste mgmt, and linking of Consent to Operate & Bio-medical Management have a far reaching impact as well as are a challenge in implementation.

Chapter IV: BMW management at AIIMS

This chapter elucidates the Institutional machinery. A illustrative flow diagram of generation to disposal schema intends to provide a snapshot of the system. Laboratory waste management needing onsite treatment is described. The Sewage Treatment Plant is related to both Consent to Operate as well as liquid waste management and the features of STP at AIIMS is briefly described.

Chapter V: Segregation: An illustrative guide

Possibly the most important component in the manual, this entirely illustrative chapter deals exclusively with the biggest challenge of effective Bio medical waste management – segregation, in a simple what –goes-where format.

Chapter VI: जैव चिकित्सा अपशिष्ट प्रबंधन

Bio-medical Waste Management in Hindi, directly addresses an important cadre of staff, the sanitation workers and supervisors.

Chapter VII: Roles and Responsibilities of Stake holders

Though essentially the most important role of most stakeholders including doctors, nurses and technicians is restricted to effective segregation, specific roles a needed to be enumerated. For examples Heads of Department have an important leadership and administrative role, while nurses need to maintain records of quantum of waste collection & needle stick injury, supervision, procurement etc.. They are of course responsible for overall correct practices. Similarly, hospital administrators, Infection Control nurses and Karamcharies have specific roles that need to be elucidated. The section for Karamcharis is in Hindi for their convenience.

Reduce, recycle, reuse; for, one man's trash is another's treasure....

Did you know?

- As per the new rules no hospital can establish on-site treatment and disposal facility, if a service of common Bio-medical Waste treatment facility is available within at a distance of 75 kilometer. Thus bio medical waste management at AIIMS is outsourced!

- Using modern technology only 5% of incinerable waste is converted to ash that goes to landfills !

- Infected plastic waste is sterilized and nearly 50% is brought back into circulation after treatment. These are first converted to plastic granule and transformed to newer plastics such as bags!!

- About 60 % of sharp waste are melted in furnaces and reused as part of stainless steel products!

- Nearly all glass waste are recycled after treatment and melting in foundries!

Chapter II:

Introduction:

"AIIMS:- An edifice with a reputation to uphold, its lanes replete stories new and old, a brighter future beckoning post-haste, and not a moment there is to waste"

What you can expect to learn from this chapter

- AIIMS, its mission and challenges in Bio-medical Waste Management.
- Hospital Waste mgmt. viewed from a global perspective as a single connected monolith
- The legal angle of Bio-medical Waste Management
- Implications of non compliance
- The institutional organogram from the perspective of Bio-medical Waste Management.

AIIMS: A brief overview

The All India Institute of Medical Sciences, New Delhi established through an act of parliament in 1956 is a premiere medical institution of National importance with a trinity of mission of teaching, research and patient care; the last component initially envisaged to support to the first two. However, over the past half a century of rendering equitable, accessible and affordable healthcare, the unintended brand building has resulted in a substantial tilt towards patient care component.

The Centres with various super-specialities at AIIMS are another adaptive response to the specialization and sub specialisation in medicine and is under the functional and administrative control of the Chief with the Director being the overall Head of the Institute. Likewise, the administrative, functional and operational authority of the AIIMS (main) hospital is vested upon the Medical Superintendent. The various hospital/centers presently in AIIMS are:

1. AIIMS Main Hospital
2. Cardio Thoracic Center
3. Neuro Sciences Center
4. Dr. B.R.Ambedkar Institute Rotary Cancer Hospital
5. Jai Prakash Narayan Apex Trauma Center
6. National Drug De-addiction &Treatment Centre, Ghaziabad
7. Dr. Rajendra Prasad Center for Ophthalmic Sciences
8. Center for Dental Education and Research

AIIMS continues to take rapid strides to cater to a growing and diverse demography. Several specialty blocks, National Cancer Institute, Trauma II projects are on the anvil and are a major step in bridging the gap. There is an essential duality in the nature of AIIMS; at one level, a general hospital for many patients from Delhi and at another, a tertiary care referral hospital for a large section of Indian population. An adaptive change has been a rise in the number of beds from 750 in early 1970s to a total bed capacity of 2412 beds in 2017. The bed occupancy is nearly 90% and about 10,000 patients visit the Out-Patient Department daily. The Emergency wards have around 650 patients visiting it per day. The hospital has nearly 14,000 staff including many outsourced workers. An even larger patient and their attendant clientele thronging its premises raises the footfall to about 50,000 a day. It is evident that such a 'city unto itself' is bound to generate enormous hospital waste and effective handling of this bio medical waste is a major challenge to the Hospital administration of the institute.

Hospital/Bio-medical Waste Management: A global perspective

The proper management of Hospital/Healthcare/Biomedical waste has become a topic of enormous concern having global implications and attention. It is of course well known and documented that Hospital waste is a potential health hazard to the health care workers, public, flora and fauna of the area.A 1990 report by the U.S. Agency for Toxic Substances and Disease Registry concluded that biomedical waste from health care settings may pose an injury and exposure risks via occupational contact with medical waste for doctors, nurses, and janitorial, laundry and refuse workers.

Hence, Biomedical waste must be properly managed and disposed off to protect the environment, general public and workers, especially healthcare and sanitation workers who are at risk of exposure to biomedical waste as an occupational hazard. Steps in the management of biomedical waste include generation, accumulation, handling, storage, treatment, transport and disposal.

Bio-medical Waste Management: A Legal Requirement:

The Environment Protection Act 1986, the Bio Medical Waste (Management and Handling) Rules in July 1998, subsequently revised in 2011and now the "Bio-medical Waste Management Rules, 2016" are an attestation to the commitment of the Govt of India. The law works on a simple "the polluter pays principle"

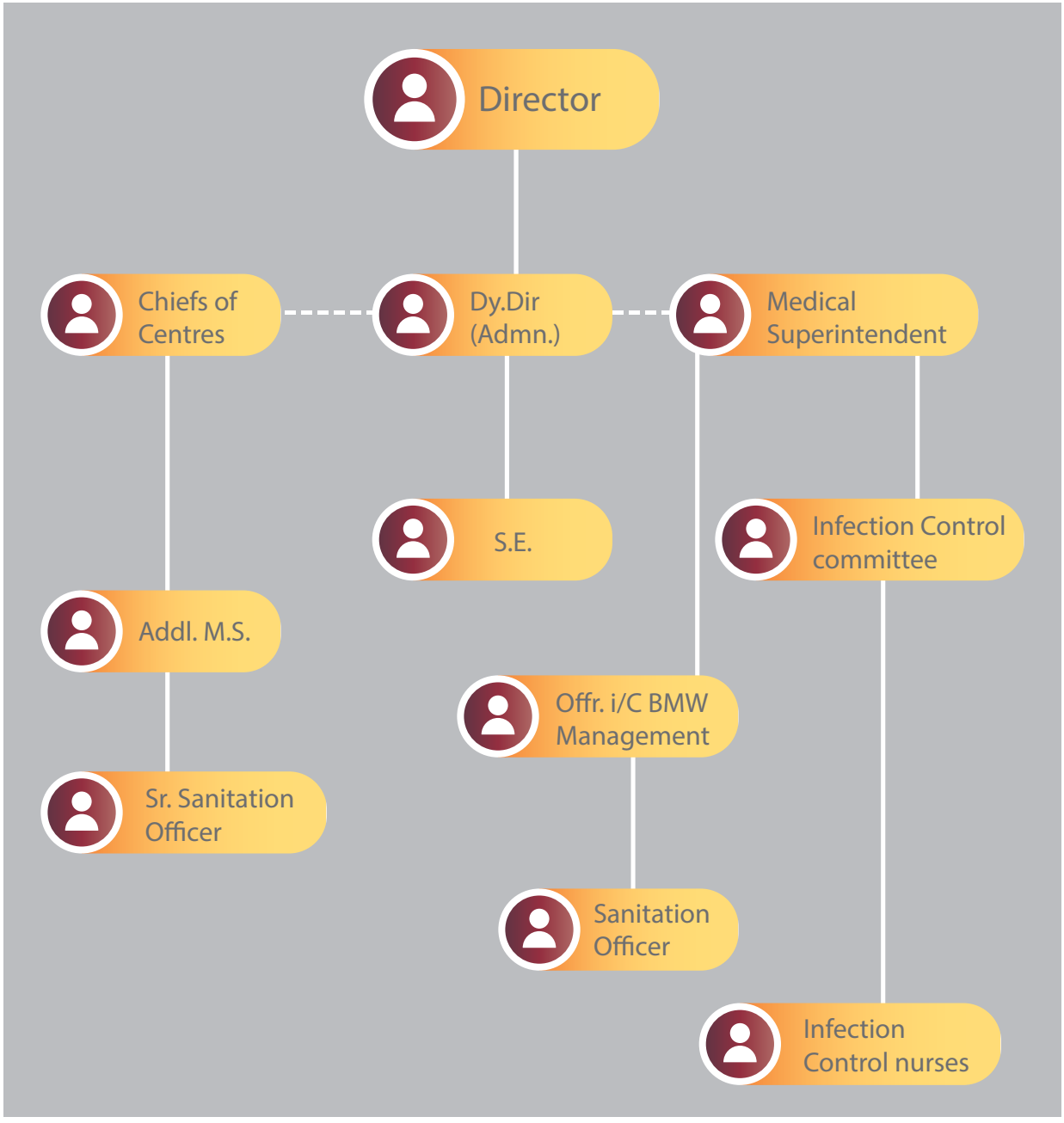
The responsibility of hospital administrator as regards to proper handling and disposal of Biomedical waste had become a statutory requirement with the promulgation of Government of India (Min of Environment, Forests& climate change) gazette notification no. 460 dated 27 Jul 1998 & notification of the Bio-medical Waste (Management and Handling) Rules in July 1998 & subsequently revised in 2011."Bio-medical Waste Management Rules, 2016" came into force in supersession of the 1998 rules with gazette notification no. G.S.R. 343(E) dated 28thMarch 2016. **The Central Pollution Control Board and the State Pollution Control Committees have the authority to cancel the Consent to Operate and the Authorization of Healthcare Institutions and under the Bio-medical Waste Management Rules 2016 for non-compliant Hospitals**. Indeed there have been such instances in India.

It is therefore essential that all officials concerned with the administration of hospitals and other health care echelons take all steps to adhere to the laid down directives to ensure that waste generated is handled without any adverse effect to human health and environment. It is equally important that all medical, dental, nursing officers, other paramedical staff and waste handlers such as safaikarmacharis, Hospital attendants & Sanitation attendants be well oriented to the basic requirements of handling and management of biomedical waste. It is with this objective of providing such basic information that this manual is envisaged.

From the ethical perspective, needle stick injury endured by a Healthcare workers due to incorrect Bio medical waste management practices are liable for legal suits besides being ethically incorrect.

Failure to comply with the provisions of the Rules, will attract penal action as per the provisions of the Environment (Protection) Act, 1986, which includes imprisonment for a period of 5 years or a fine of Rs.1 lakh or both.

AIIMS ORGANOGRAM : BIO-MEDICAL WASTE (BMW) MANAGEMENT PERSPECTIVE



Did you know?

- According to WHO, nearly 85% of all waste generated by hospitals in general waste

- About 10 % is Bio-medical Waste

- And only 5% is other wastes such as radioactive and chemical wastes

- In a large tertiary care hospital such as AIIMS, the Bio medical waste generated is about 1.5kg/bed/day as against 2.8kg/bed/day from a similar sized hospital in USA

Chapter III:

BIO-MEDICAL WASTE MANAGEMENT RULES 2016: Salient features and its implication on AIIMS

"Rules are not necessarily sacred, principles are."

What you can expect to learn from this chapter

- What is Bio-medical Waste?
- What types of waste do not constitute Bio-medical Waste ?
- Features of BMW management Rules 2016 everyone should know
- What are the duties of AIIMS as per BMW management Rules 2016 ?
- What are the duties of the vendor collecting Bio-medical Waste from AIIMS?
- What records need to be maintained ?
- What happens if there is an accident?
- What are the categories of Bio-medical Waste and what goes into what?
- How is liquid waste handled-Sewage Treatment Plants

Definition of Bio-medical Waste: "Bio-medical waste" means any waste, which is generated during the diagnosis, treatment or immunization of human beings or animals or research activities pertaining thereto or in the production or testing of biological or in health camps.

The Bio-medical Waste Management rules are applicable to all persons who generate, collect, receive, store, transport, treat, dispose, or handle bio medical waste in any form.

Bio-Medical Waste rules 2016 doesn't apply to the following types of wastes as they are covered under different acts enumerated below:

- Radioactive wastes
- Hazardous chemicals
- Lead acid batteries
- Hazardous wastes
- E-Waste
- Municipal Solid Wastes
- Hazardous microorganisms, genetically engineered microorganisms and cells

The major salient features of BMW Management Rules, 2016 include the following:

(a) The scope of the rules has been expanded to include vaccination camps, blood donation camps, surgical camps or any other healthcare activity;

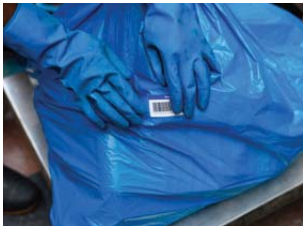


(b) Phase-out the use of chlorinated plastic bags, gloves and blood bags within two years

(c) Pre-treatment of the laboratory waste, microbiological waste, blood samples and blood bags through disinfection sterilization on-site in the manner as prescribed by WHO or NACO


(d) Provide training to all its health care workers and immunize all health workers regularly;

(e) Establish a Bar-Code System for bags or containers containing bio-medical waste for disposal;




(f) Report major accidents;

(g) Existing incinerators to achieve the standards for retention time in secondary chamber and Dioxin and Furans within two years;

(h) Bio-medical waste has been classified in to 4 categories instead of 10 to improve the segregation of waste at source;

Cat.	Type of Bag/ Container used	Type of Waste	Treatment/Disposal options
Yellow 	non-chlorinated plastic bags Separate collection system leading to effluent treatment system	**a) Human Anatomical Waste** **b) Animal Anatomical Waste** **C) Soiled Waste** **d) Expired or Discarded Medicines** **e) Chemical Waste** **f) Micro, Bio-t and other clinical lab waste** **g) Chemical Liquid Waste**	Incineration or Plasma pyrolysis or deep burial*
Red 	non-chlorinated plastic bags or containers	**Contaminated Waste (Recyclable)** tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes (without needles) and gloves	Autoclaving/microwaving /hydroclaving and then sent for recyling not be sent to landfill
White 	(Translucent) Puncture, Leak, tamper proof containers	**Waste sharps including Metals**	Auto or Dry Heat Sterilization followed by shredding or mutiation or encapsulation
Blue 	Cardboard boxes with blue colored marking	**Glassware**	Disinfection or autoclaving, microwaving, hydroclaving and then sent for recycling

(i) Procedure to get authorization simplified. The validity of authorization synchronized with validity of consent orders for Bedded HCFs.

(j) The new rules prescribe more stringent standards for incinerator to reduce the emission of pollutants in environment;

(k) Inclusion of emissions limits for Dioxin and furans;

(l) No occupier shall establish on-site treatment and disposal facility, if a service of `common bio-medical waste treatment facility is available at seventy-five kilometers.

(n) Operator of a common bio-medical waste treatment and disposal facility to ensure the timely collection of bio-medical waste from the Health Care Facility and assist the Health Care Facility in conduct of training.

DUTIES OF OCCUPIER:

1. To provide a safe, ventilated and secured location for storage of segregated BMW within premises.



2. Phase out use of chlorinated plastic bags, gloves and blood bags within two years from the date of notification of these rules.

3. Provide training to all its health care workers and others involved in handling of bio medical waste.


4. Immunization against Hepatitis B and tetanus for workers.

5. Establish a Bar-Code System for bags or containers containing bio-medical waste to be sent out of the premises.


DUTIES OF OPERATOR:

1. Report major accidents and remedial measures to SPCB

2. Ensure timely collection of BMW from healthcare facilities




3. Handing over of recyclable waste to after treatment by autoclaving and incineration

4. Establish bar coding and GPS for handling within one year


5.Assist health care facilities in training of workers

6. Upgradation of existing incinerators and achievement of standards for secondary chamber

TREATMENT AND DISPOSAL:

1. No healthcare facility shall setup onsite BMW treatment facilities if a CBMWTF exists within 75 kms of distance.

SEGREGATION, PACKING STORAGE AND TRANSPORT:

1. Bio-medical waste classified into 4 categories based on treatment options.

2. No untreated bio-medical waste shall be kept stored beyond a period of 48 hours

3. If required to store beyond 48 hours, the occupier shall ensure that it affect human health and inform the SPCB with reason.

AUTHORIZATION:

1. One time Authorization for Non-bedded HCFs.

2. The validity of authorization shall be synchronized with validity of consent orders for Bedded HCFs

MONITORING OF IMPLEMENTATION OF THE RULES: ANNUAL REPORT:

1. Every occupier shall submit an annual report to the prescribed authority by 30th of June every year

2. The prescribed authority shall compile, review, analyze and report to the Central Pollution Control Board (CPCB) by 31st July every year

3. The CPCB shall submit a report on the same to the Ministry of Environment, Forest & climate change by 31st August every year

4. The Annual reports shall be available on the websites of the occupier, State Pollution Control Board (SPCB) and the CPCB

MAINTENANCE OF RECORDS:

1. Records in relation to generation, collection, reception, storage, transportation, treatment and disposal shall be maintained as per rules For 5 years
2. Biomedical waste management website

ACCIDENT REPORTING:

1. In case of major accident-intimate immediately and submit a report within 24 hours

SCHEDULES:

There are 4 schedules (or parts) in the Bio-Medical Waste rules 2016:

Schedule 1: Categorization and Management

Schedule 2: Standards for treatment and disposal of BMW

Schedule 3: Prescribed Authority and duties

Schedule 4: Label of containers, bags and transportation of Bio-Medical waste

Schedule 1 of Bio-medical Waste Management Rules 2016 contains details of Bio-medical Waste categories and their segregation, collection, treatment, processing and disposal options. Bio-medical waste classified in to 4 categories based on treatment options

BIOHAZARD

बायो मेडिकल वेस्ट/ BIO MEDICAL WASTE

पीला थैला/ YELLOW BAG

- मानवीय अंग एवं जीव वेस्ट
  (मानवीय टिशू, शारीरिक अंग वेस्ट)
- रक्त से सनी वस्तु
  (पट्टी, प्लास्टर, ब्लड बैग)
- अवधि समाप्त दवाइयाँ
  (एंटिबायोटिक्स दवाइयाँ)
- कैमिकल वेस्ट
  (जैव-विज्ञान में इस्तेमाल कैमिकल)
- रक्त से दूषित लीनेन, बिस्तर
- लेबोरेटोरी वेस्ट
  (ब्लड बैग, कल्चर, माईक्रोऑरगेनिज़्म स्पेसिमेन)

- Human & Animal Anatomical Waste
  (Tissues, Organs, Body Parts, Fetus etc.)
- Soiled Waste
  (Dressings, Plaster Casts, Cotton Swabs, Residual/Discarded Blood Bags)
- Expired or Discarded Medicine
  (Antibiotics etc.)
- Chemical Waste
  (Discarded Reagents, Disinfectants)
- Discarded Linen, Mattresses & Beddings
- Pre-Treated Microbiology, Bio-technology & Clinical Lab Waste
  (Blood Bags, Cultures, Residual Toxins, Dishes & Devices, Microorganism specimen)

- साइटोटोक्सिक वेस्ट
  (साइटोटोक्सिक दवाईयों से दूषित वायल, एमप्यूल, प्लास्टिक इत्यादि)

- Cytotoxic Waste
  (All items Contaminated with Cytotoxic drugs along with glass or plastic ampoules, vials etc.)

लाल थैला/ RED BAG

- रीसायकल योग्य इंफैक्टेड वेस्ट
  (ट्यूब, बोतल, इंट्रावीनस ट्यूब और सेट, कैथेटर, यूरो बैग, बिना सूई की सिरींज, वैक्यूटेनर एवं दस्ताने)

- Contaminated Waste (Recyclable)
  (Tubings, Plastic Bottles, Intravenous tubes & sets, Catheters, Urine Bags, Syringes without needle, Vaccutainers and Gloves)

सफेद डिब्बा/ WHITE CONTAINER

(पंचर, टेम्पर और लीक प्रूफ़)/(PUNCTURE, TAMPER AND LEAK PROOF)

- नुकीला एवं धातु वाला वेस्ट
  (सूई, सूई लगी सिरींज, स्कालपेल्स, ब्लेड एवं अन्य नोकदार वस्तु)

- Waste Sharps Including Metals
  (Needles, Syringes with fixed Needles, Needles from needle tip cutter or Burner, Scalpels, Blades, Contaminated Sharp objects)

गत्ते का डिब्बा/ CARDBOARD BOX

(नीले चिन्ह् के साथ)/(WITH BLUE MARKING)

- कांच का वेस्ट
  (टूटा हुआ कांच, दवाई की शीशियां एवं एमप्यूल)
- धातु वाले इम्प्लांट

- Glassware
  (Contaminated Broken/Discarded Glass, Vials, Ampoules)
- Metallic Body Implants

DESIGNED BY DEPARTMENT OF HOSPITAL ADMINISTRATION, AIIMS AND BIOTIC WASTE SOLUTIONS PVT. LTD.

BMW Rules 2016	Implication
SEGREGATION, PACKING STORAGE AND TRANSPORT	
Bio-medical waste classified in to 4 categories based on treatment options instead of 10 categories based on type of waste as per previous rules.	Will improve the segregation of waste at source channelize proper treatment and disposal
No untreated bio-medical waste shall be kept stored beyond a period of 48 hours	Reiteration of older rules to ensure HAI is prevented
If required to store beyond 48 hours, the occupier shall ensure that it affect human health and inform the SPCB with reason.	Difficulty of obtaining permission within 48 hours is eliminated.
TREATMENT AND DISPOSAL	
Pre-treatment of the laboratory waste, microbiological waste, blood samples and blood bags through disinfection or sterilization on-site in the manner as prescribed by WHO or NACO	This is to prevent the possible microbial contamination. Logistical and administrative issues abound especially if biomedical waste mgmt. is outsourced.
AUTHORIZATION	
One-time Authorization for Non-bedded HCFs. The validity of authorization shall be synchronized with validity of consent orders for Bedded HCFs	Application and consent can be given together SPCB can make single inspection
AUTHORIZATION	
provide training to all its health care workers and others involved in handling of bio medical waste	Will improve the management of BMW including collection, segregation
Immunization against Hepatitis B and tetanus for workers	Will ensure protection of workers handling BMW
Establish a Bar-Code System for bags or containers containing bio-medical waste to be sent out of the premises	Improve segregation/transport Prevent pilferage
Report major accidents and remedial measures to SPCB	Help monitor and improve management

BMW Rules 2016	Implication
MONITORING OF IMPLEMENTATION OF THE RULES: ANNUAL REPORT	
Every occupier shall submit an annual report to the prescribed authority by 30th of June every year	The Institutions are now compelled to retain documents in a different format.
The prescribed authority shall compile, review, analyze and report to the CPCB by 31stJuly every year	-
The CPCB shall submit a report on the same to the MoEFCC by 31st August every year	-
The Annual reports shall be available on the websites of the occupier, SPCB and the CPCB	HCF become more transparent and accountable
MAINTENANCE OF RECORDS	
Records in relation to generation, collection, reception, storage, transportation, treatment and disposal shall be maintained as per rules For 5 years	Improve accountability Generate data on the amount and type of biomedical waste generated.
ACCIDENT REPORTING	
Any major accident-intimate immediately and submit a report within 24 hours	Risk analysis and mitigation improved

Implementation:

Efficient implementation of the bio-medical waste management pivots on orientation, training and involvement of all the staff in the facility. Ensuring proper disposal and segregation at source is the most important step as this is the limiting factor for most organizations. Continuous training and committees to monitor the implementation can be of help.

Remember:

YELLOW has blood and tissues dead,

Infected plastics and rubber go in RED,

Sharps in Containers lockable &white,

Blue Card boards for Glassware, that's right,

The colour Black for general waste

Don't forget this in your haste !!!

Chapter IV:

Bio-medical Waste Management at AIIMS:

"There are parallel stories running everywhere,
And here's one to share..
Patients whom we treat and manage
Generate waste for others to treat and manage.."

What you can expect to learn from this chapter

- How is Bio-medical Waste Management at AIIMS coordinated ?
- The life cycle of a Bio-medical Waste up to the point of disposal
- On site treatment of laboratory waste
- What happens at the Common Bio-medical Waste treatment facility?
- A brief on the AIIMS Sewage Treatment Plant

For practical purposes, the whole system of Bio-Medical Waste and General waste Management in the hospital is be divided into the following segments

First Segment	Middle Segment	Last Segment
Segregation and Collection of waste at the site of generation (ward / lab /Blood bank / user areas etc.) and transportation to the Collection points i.e sluice room/common corridor etc). This service is carried out by outsourced sanitation firms.	1. Collection and transportation of biomedical waste from the collection points to Central temporary collection and storage facility 2. Collection and transportation of biomedical waste from the collection points at laboratories and blood banks and microwaving of these wastes. Subsequently these wastes are transported to Central temporary collection and storage facility 3. Transportation of general wastes from Collection points to NDMC central collection facility. These services are also carried out by outsourced sanitation firms	Transportation of Bio-medical waste from the Central temporary collection and storage area/ center, treatment and final disposal. This segment of service is being rendered by the DPCC authorized CBWTF operator M/S Biotic Pvt. Limited

Generation to Disposal Process – An illustrative journey !

Step -1

BMW is collected from various sites in appropriate location




Step -2

waste is collected from colour coded bins and the bags are loaded on to trolleys



Step -3

Trolleys from all over the hospital transport the waste and is storage in the Temporary Storage facility (for less than 48hrs)



Step -4

Bags are weighed and bar coded

Step -5

All Collected Bags are loaded on to special Bio Medical Waste Trucks and are transported to common BMW Treatment facility
(Outsourced vendor approved by DPCC)

SPECIAL HANDLING OF LAB WASTE- PRE- TREATMENT ON SITE BEFORE DISPOSAL

1.
BIO-MEDICAL WASTE GENERATED FROM THE VARIOUS LABOROTORIES

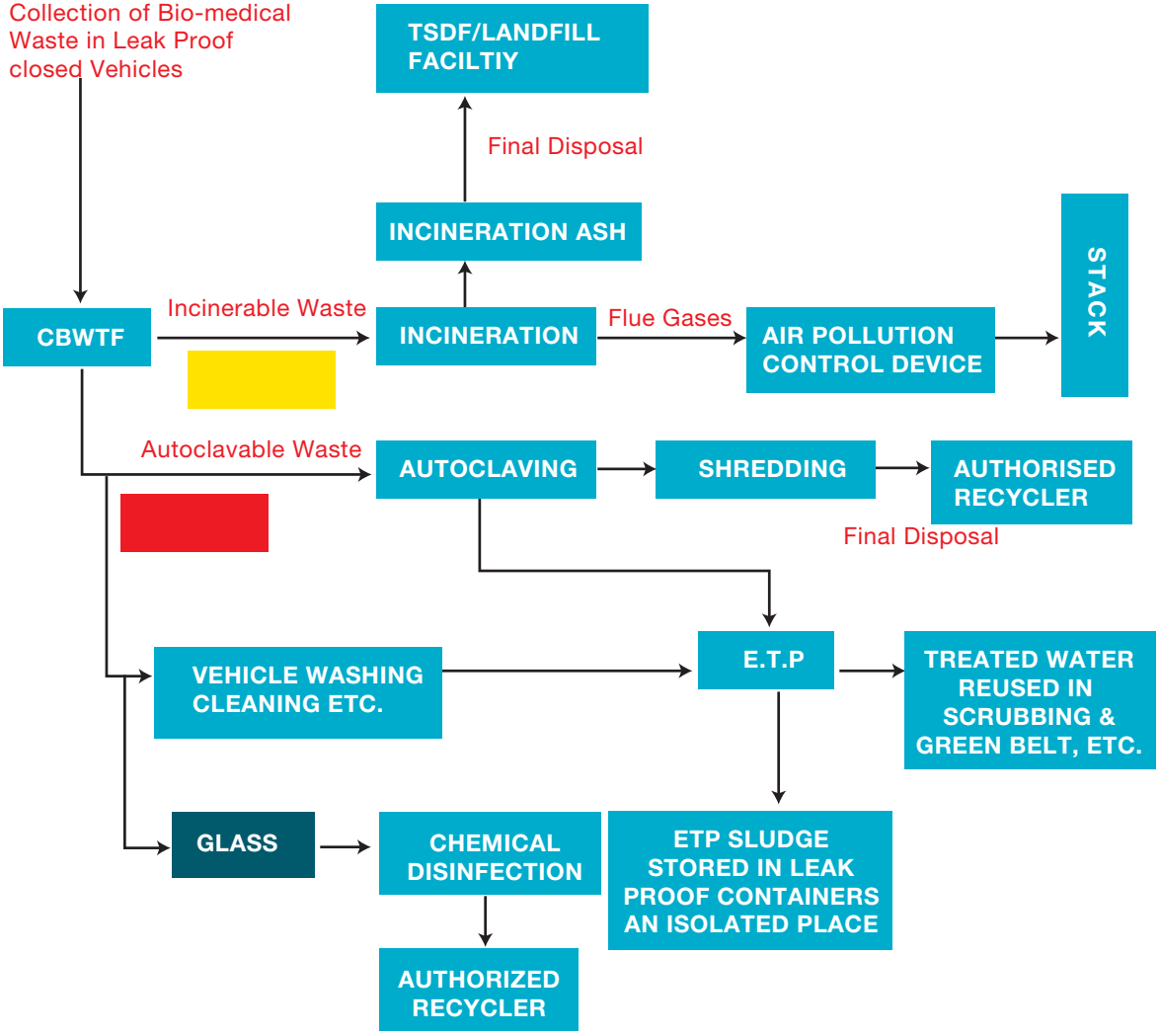
2.
THE BAGS ARE LOADED IN A MICROWAVE AND ARE PRE- TREATED AS PER SPECIFIED GUIDELINES

3.
THE BAGS CONTAINING LAB WASTE ARE THEN TRANSPORTED TO THE TEMPORARY STORAGE FACILITY TO BE DISPOSED OFF ALONG WITH OTHER BIO MEDICAL WASTE FROM OTHER AREAS OF THE HOSPITAL

FLOW CHART SHOWING PROCESS FOR DISPOSAL OF BIO-MEDICAL WASTE AT COMMON TREATMENT SITE

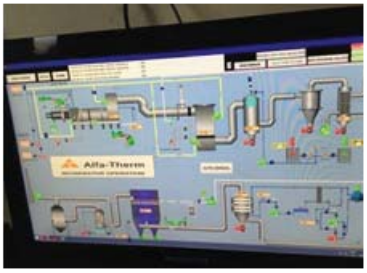
(Courtesy – Biotic Waste Solutions Pvt. Ltd, New Delhi)

TREATMENT PROCEDURE



Common Bio-medical Waste Treatment Facility (CBWTF)

Collection of Bio Medical Waste from hospital at common treatment facility of Biotic Waste Solution (outside the hospital)



Collection of Bio Medical Waste from hospital at common treatment facility of Biotic Waste Solution (outside the hospital)

The yellow colour bags are put into the ROTARY KILN INCINERATOR for disposal by burning

Biotic Waste Solution Pvt.Ltd.: Authorised Common Bio-medical Waste Treatment Facility Operator for AIIMS (CBWTF)

Glassware recycled after treatment

AUTOCLAVE- contents of RED Bags are autoclaved

The contents from the RED are put into autoclave for sterilisation and then they are shredded before reuse.

SEWAGE TREATMENT PLANT OF AIIMS, NEW DELH

a. Sewage Treatment Plant


b. Chemical Liquid waste: Separate Collection system to STP


c. STP being inspected by Kaya Kalp Inspection team: AIIMS, New Delhi was adjudicated first among all central govt.hospitals


Did you know?

That as of 2018, in a month,

- AIIMS produces 24000 kgs of yellow waste,

- 23,500 kgs of plastic and rubber waste

- 500 kgs of sharps and 26,200 kgs of glass waste!

- That is a colossal 74,500kgs a month or nearly 2500 kgs of Bio-medical waste a day!!!

- Imagine if it doesn't get segregated, transported, treated and disposed off correctly!!!

Chapter V:

Segregation: An Illustrative Guide :

"Segregation is knowing what goes where, and is as important as patient care!"

YELLOW BIN

BIO MEDICAL WASTE

HUMAN / ANIMAL ANATOMICAL & SOILED WASTE





BIOHAZARD

Yellow Bin:

- **Human anatomical waste:**
  A. Tissues B. Organ C. Body Parts
- **Animal anatomical waste**
- **Soiled waste: items contaminated with blood and body fluid**
  A. Dressings B. Plaster casts C. Cotton swabs
  D. Discarded linen E. Mattresses F. Beddings
  G. Blood bags H. Discarded and expired medicine

Designed Under Guidance by:
Department of Hospital Administration - AIIMS, New Delhi

BLUE BIN

BIO MEDICAL WASTE

ALL BROKEN & CONTAMINATED GLASSWARE







BIOHAZARD


Blue Bin: All glass waste

- Infected broken Glass Bottles
- Broken or unbroken Glassware and vials
- Ampoules (except cytotoxic waste)

Designed Under Guidance by:
Department of Hospital Administration - AIIMS, New Delhi

WHITE CONTAINER

PUNCTURE PROOF, LEAK & TAMPER PROOF FOR SHARPS

ALL INFECTED SHARPS WASTE

BIOHAZARD

White Container: All infected sharps waste

- Waste Sharps including Metals
- Needles
- Syringes with fixed Needles
- Needles from Needle Tip Cutter or Burner
- Scalpels
- Blades
- Contaminated Sharp objects

Designed Under Guidance by:
Department of Hospital Administration - AIIMS, New Delhi

BLACK BIN

ALL GENERAL WASTE






Black Bin: Non-Infectious General Waste

- Food waste
- Mineral water bottles
- Paper waste

Designed Under Guidance by:
Department of Hospital Administration - AIIMS, New Delhi

CHAPTER VI:
BIO MEDICAL WASTE MANAGEMENT FOR GROUP 'C' STAFF:

"सही waste डले सही Bin!
स्वच्छ रहेगा AIIMS प्रतिदिन"

इस अध्याय से सीखने योग्य बातें
- जैव चिकित्सा अपशिष्ट प्रबंधन नियम-2016 के अंतर्गत अपशिष्ट की श्रेणियां
- एम्स में अपशिष्ट प्रबंधन की प्रणाली
- जैव चिकित्सा अपशिष्ट की प्रक्रिया : एक चित्रीय विश्लेषण

जैव चिकित्सा अपशिष्ट प्रबंधन: समूह 'ग' स्टाफ एवं आउटसोर्स स्टाफ का परिप्रेक्ष्य:-

नए जैव चिकित्सा अपशिष्ट प्रबंधन नियम-2016 के अंतर्गत जैव चिकित्सा अपशिष्ट प्रबंधन में कई बदलाव आए हैं। स्वच्छता स्टाफ जैव चिकित्सा अपशिष्ट के सही प्रबंधन एवं उनके निपटान में अहम भूमिका निभाते हैं।

1. अपशिष्ट की श्रेणियां

जैव चिकित्सा अपशिष्ट प्रबंधन नियमों में अब अपशिष्ट की 4 श्रेणियां हैं:- पीला, लाल, सफेद एवं नीला। इन्हें सरल संक्षिप्त अक्षरों द्वारा याद किया जा सकता है। काले में केवल साधारन कूड़ा ही डलता है

एम्स में अपशिष्ट प्रबंधन

पी-पीले में पट्टी

ला-लाल में लचीला प्लास्टिक

स-सफेद में सुई और स्कॅल्पेल

ब-ब्लू में बोतल (या गत्ते में ग्लास)

जैव चिकित्सा अपशिष्ट की प्रक्रिया : एक चित्रीय विश्लेषण

1. अपशिष्ट उत्पन्न होने के स्थान (वार्ड/प्रयोगशाला/ब्लड बैंक आदि) पर अपशिष्ट का सही अलगाव तथा उपयुक्त बैग में एकत्रित किया जाता हैi ये बहुत ज़रूरी है i




2. स्लूसकक्ष/ सामान्य गलियारा से जैव चिकित्सा अपशिष्ट को बाधने के बाद, उसी रंग की ट्राली में इकठा करके केन्द्रीय अस्थायी एकत्रीकरण तथा भंडार केन्द्र तक पहुँचाया जाता है!



3. केन्द्रीय अस्थायी एकत्रीकरण तथा भंडार केन्द्र: नियमों के मुताबिक यह अनिवार्य है!



4. बैग को तौला जाता है और बार कोड लगाये जाते हैं

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5. केन्द्रीय अस्थायी एकत्रीकरण एवं भंडार स्थान/ केन्द्र से जैव चिकित्सा अपशिष्ट केनिदान एवं अंतिम निपटान तक पहुँचाने की ज़िम्मेदारी सी.बी.डब्ल्यू.टी.एफ. ऑपरेटर Biotic Waste Solutions Pvt. Ltd. द्वारा प्रदान की गई है।

अलगाव के सामन की सूची :

पीला बैग :

क्र.सं.	मद	मद
1.	मानव शारीरिक अपशिष्ट	पट्टियां, स्पंज, गॉज
2.	संक्रमित टिश्यू पेपर	कटा हुआ प्लास्टर
3.	संक्रमित प्रयोज्य गाउन	रूई के फाहे
4.	संक्रमित प्रयोज्य मास्क	बेकार कपड़ा
5.	संक्रमित प्रयोज्य जूतों के कवर	संक्रमित गद्दे
6.	संक्रमित प्रयोज्य टोपी	संक्रमित बिस्तर
7.	डायपर बच्चों/व्यस्कों के	रक्त की थैली
8.	शय्याव्रण त्वचा (प्रेशर सोर) ड्रेसिंग	पशु शारीरिक अपशिष्ट

लाल बैग:

क्र.सं.	मद	मद
1.	ट्यूबिंग्स	टयूबिंग से उत्पन्न कचरा
2.	एन.जी.ट्यूब	प्लास्टिक आई./वी. बोतले (नार्मल सलाइन, डी.एन.एस., आर.एल. आदि)
3.	बंद सक्शन (क्लोज्ड सक्शन)	आई.वी.ट्यूब/बी.टी. सेट,सेंट्रल लाइन
4.	कैथेटर रबर	दस्तानें
5.	कैथेटर सीलिकॉन	मूत्र बैग
6.	ट्रैकियल ट्यूब	कैथेटर
7.	रेपिड इन्फ्यूजन ट्यूबिंग्स	ड्रेन्स
8.	रेपिड इन्फ्यूजन ट्यूबिंग्स	बिना सुई की सिरिंज

नीले डब्बे (कार्डबोर्ड बॉक्स):

टूटे हुए, फेंके हुए एवं दूषित कांच के समान, स्लाइड वायलस एवं ऐमपूल, बोतल।

सफ़ेद डिब्बे (पंक्चर रहित,टेम्पर रहित एवं रिसाव रहित)

क्र.सं.	मद	मद
1.	बिना ढक्कन की सुई	केनूला एवं बायोप्सी सुई स्टिलेट्स
2.	सुई के साथ पहले से भरी हुई ग्लास सिरिंज) क्लेक्जन, जी-सी.एस.एफ . आदि	लैप बॉयोप्सीगन
3.	स्केलपल, ब्लेड	बॉयोप्सीगन नीडिलऔर गाइड तारें
4.	सूचरसुई	बॉयोप्सी गन नीडिल प्रोब

काला बैग :

क्र.सं.	मद	मद
1.	प्रयोग की गई स्टैरिलियम की बोतल	असंक्रमित प्रयोज्य टोपी
2.	प्रयोग की गई बेसीलॉल की बोतल	असंक्रमित प्रयोज्य मास्क
3.	असंक्रमित प्रयोज्य जूतों के कवर	सुइयों के कवर
4.	असंक्रमित प्रयोज्य गाउन	उपयोग के बाद सिवनी आवरण (सुचर रेपर्स) (प्लास्टिक+अल्यूमिनियम, प्लास्टिक+कागज)

सुई के चुभने से होने वाली चोटें:-

इसके लिए व्यक्तिगत सुरक्षा उपकरण प्रदान करने वाली कम्पनी जिम्मेदार है। अंतत: सुई के चुभने से होने वाली चोट के बारे में सूचना देनी चाहिए एवं एम्स में स्थित नए आपातकालीन वार्ड मे इसका पूरा इलाज नि:शुल्क किया जाना चाहिए। नियम के कार्यान्वयन में समूह 'ग' एवं समूह 'घ'तथा स्वच्छता स्टाफ की भूमिका महत्वपूर्ण है।

टीकाकरण:-

सभी स्वच्छता स्टाफ जो भी जैव चिकित्सा अपशिष्ट के संपर्क में आते हैं उन्हें टेटनस टोक्सोइड (T.T.) एवं हेपेटाइटिस बी (Hepatitis B) के टीकाकरण लगने चाहिए। यह प्रत्येक कार्यकर्ताके स्वास्थ्य कार्ड में दर्ज होगा।

क्या आप अपने अधिकारों से परिचित हैं ?.

जैव चिकित्सा अपशिष्ट प्रबंधन नियम-2016 के अंतर्गत:

1. जैव चिकित्सा अपशिष्ट हथालन से समबन्धित सभी सफाई कर्मचारियो के स्वस्थ के देखभाल के लिए उनकी भर्ती के समय तथा हर वर्ष प्रशिक्षण देना अनिवार्य है ।

2. सभी सफाई कर्मचारियो को Hepatitis B तथा Tetanus का टीका लगवाना भी ज़रूरी है ।

3. समुचित और पर्याप्त व्यक्तिगत संरक्षण प्रदान कराना भी अस्पताल की ज़िम्मेदारी है ।

4. अस्पताल प्रशासन द्वारा जैव चिकित्सा अपशिष्ट हथालन से समबन्धित सभी सफाई कर्मचारियो के स्वस्थ के देखभाल के लिए उनकी भरती के समय तथा हर वर्ष कम से कम एक स्वस्थ्य जांच आयोजित कराना देना अनिवार्य है ।

Chapter VII:

Roles and Responsibilities of Stake holders:

Though the knowledge of correct segregation practices is the most facet of the practices for all stakeholders including doctors, nurses and technicians, specific roles a needed to be enumerated.

> *"Here's an opportunity for all of us to play a crucial role, a responsibility to the nation and world as whole!"*

1. Heads of Department:-

a) Primary leadership role, ensuring all staff understand the importance of bio medical waste mgmt.., follow correct practices, nurses feel empowered to correct erring residents and vice versa.

b) Ensuring that all the consultants & residents are trained in adopting correct segregation practices and make regular inspections to see that they are followed by all consultants, the residents & nurses posted in their labs, wards, ICU's & OT's.

c) Root cause analysis & corrective and preventive action of accident reporting as per BMW rules.

d) Ensuring that nurses procure all the requisite items for bio medical waste management.

2. Consultants &Residents:

a) Appropriate Segregation

b) Vaccination

c) Annual health check-up

3. Hospital Administrators:

a) Compliance with all sections of the Bio medical waste management Rules -2016.

b) Application, authorization & Renewal of Authorization.

c) Submitting monthly & annual audit reports to statutory authority like DPCC.

d) Procurement of all equipment/ items and ensure use across the hospital to aid in correct implementation of rules.

e) Supervision & auditing at frequent intervals.

f) Constitution of Bio medical waste management committee & holding regular meetings.

g) Preparation of tenders & entering agreement regarding transportation of waste from source of generation to common waste collection area & from there to disposal.

h) Coord. with Engineering service to ensure proper functioning of STP.

4. Staff Nurses :

a) Proper segregation

b) Supervision of house keeping

c) Senior nurses should audit the practices adopted by residents & all their subordinate staff including Hospital & sanitary attendants.

d) Incident reporting

e) Indenting & maintaining logistics required for BMW handling in ward, lab, ICU & OT's.

f) Ensuring that SA's take proper precautions while handling waste.

g) Post exposure prophylaxis to be ensured in case on needle stick injuries

5. Infection Control Nurses :

a. Creating SOP's of complete BMW handling.

b. Maintaining data records & reporting .

c. Regular rounds and audits

d. Supervision of vaccination & health status of health care workers.

e. Training of all health care staff in adopting corrects practices.

6. Hospital /Sanitary Attendants:

स्वच्छता स्टाफ की भूमिका:-

क) जब छोटे कूड़ेदान में बैग 2/3 तक भर जाए, तब एकत्रित अपशिष्टके बैग को बांधकर स्लूस कक्ष/ सामान्यगलियारा(कॉमन कॉरिडोर) में रखे बड़े कूड़े दान में रखना ।

ख) स्वच्छता स्टाफ यह भी सुनिश्चित करें कि बैग और कूड़ेदान का रंग समान हो अर्थात पीला बैग पीले कूड़ेदान में, लाल बैग लाल कूड़ेदान में, नीला बैग नीले कूड़ेदान में एवं काला बैग काले कूड़ेदान में रखा जाए।

ग) अगर वह अलगाव की क्रिया को गलत देखते हैं तो वह नर्स या सुपरवाइजर को सूचित करेंगे तत्पश्चात वह संबंधित अधिकारियों को यह सूचना देंगी।

घ) व्यक्तिगत सुरक्षा उपकरण (पी.पी.ई.):- स्वच्छता स्टाफ यह भी सुनिश्चित करे कि स्टाफ सही व्यक्तिगत सुरक्षा उपकरणों अर्थात दस्ताने, मास्क आदि को पहन रहें हैं।

ङ) स्टाफ यह भी सुनिश्चित करे कि बैग 2/3 से ज्यादा न भरा हो एवं बंधा हो तथा बड़े कूड़ेदान तक पहुंचाया गया हो।

The responsibility of what we generate ,

Doesn't end just at our gate,

Some of it must burn,

Into smoke and ash it will turn

But recycling of much of what we segregate..

Must be ensured, for that's its exalted fate !

Annexure-I

SEGREGATION LIST OF COMMON ITEMS IN HOSPITAL AS PER BIO-MEDICAL WASTE MANAGEMENT RULES 2016:

Yellow bin:

1. Human anatomical waste:
    A. Tissues, organs, body parts
    B. Foetus, Umbilical stump, placenta
2. Animal anatomical waste: Tissues, organs, body parts
3. Soiled waste: items contaminated with blood and body fluids
    A. Dressings , sponges, gauze
    B. Plaster casts
    C. Cotton swabs
    D. Blood bags
    E. Infected gowns, mask, shoe covers, cap

4. Expired or discarded medicines including antibiotics (except cytotoxic)
5. All yellow waste that are generated from labs
6. Chemical waste
    A. Discarded disinfectants, Cleaning agents
    B. X-ray film developing liquid, Infected secretions
    C. Aspirated body fluids, Liquid from laboratories

Yellow bin with cytotoxic label:

1. Used, discarded and expired cytotoxic drugs whether in plastic vaccutainers, syringes , glass vials, ampoules, glass bottles.The container is not the determining factor in the case of segregation of cytotoxic wastes.
2. All items used during preparation and administration of cytotoxic drugs (eg: glass and plastic bottles, ampoules, vials, iv sets, gloves, syringes without needle, dressing, cotton swabs, etc.)

Red bin:

All infected plastic recyclable waste:

A. Waste generated from tubings,
B. Plastic i/v bottles, (normal saline, DNS, Ringer lactate etc, etc)
C. IV tubes /BT sets, central line, PICC line
D. Gloves
E. Urine bags, Catheters
F. Drains
G. Syringes without needles
H. Vaccutainers without needles
I. Et/tt tubes, Ng tubes
J. Transparent dressing sheet (eg: tegaderm)
K. Ventilator/ nebulizer tubing's
L. Ostomy bags
M. Tracheal tubes
N. Suction/ oxygen tubing's
O. Diagnostic kits
P. All plastic and rubber infected waste generated from laboratories*

Sharp containers (puncture proof, tamper proof and leak proof)

A. Needles without cap

B. Pre-filled glass syringe with fixed needles

C. Scalpel, blades

D. Biopsy needles

E. Guide wires

F. Suture needles

G. Cannula and biopsy needle stilette

H. All sharps generated from laboratories*

Blue marked cardboard box

1. Broken, discarded and contaminated glassware including slides, vials and ampoules (except cytotoxic waste)

2. Metallic body implants

3. Disposable laparoscopic instruments

4. All glassware generated from, laboratories *
*All laboratory waste is first treated on site by microwaving before final disposal

Black bin:

1. General waste including food, paper waste etc

2. Uninfected plastic wastes such a mineral water bottles

3. Uninfected disposable towel

4. Uninfected gowns, shoe covers, cap, masks

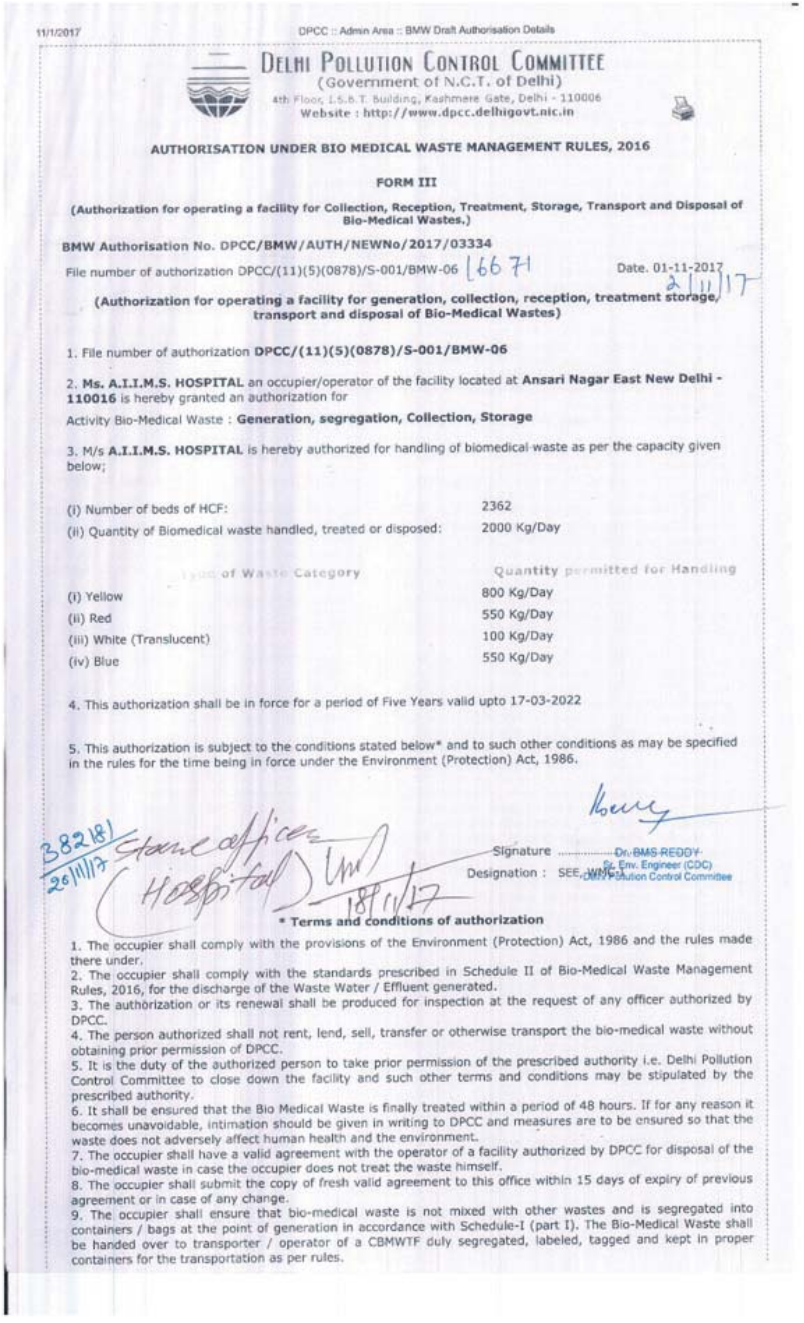
5. Covers of sterile items such as syringes etc

6. Sterillium used bottle

7. Bacillol or any other uninfected used bottle.

Annexure-II

Authorization of AIIMS under the BMW Management Rules 2016



11/1/2017 DPCC :: Admin Area :: BMW Draft Authorisation Details

DELHI POLLUTION CONTROL COMMITTEE
(Government of N.C.T. of Delhi)
4th Floor, I.S.B.T. Building, Kashmere Gate, Delhi - 110006
Website : http://www.dpcc.delhigovt.nic.in

AUTHORISATION UNDER BIO MEDICAL WASTE MANAGEMENT RULES, 2016

FORM III

(Authorization for operating a facility for Collection, Reception, Treatment, Storage, Transport and Disposal of Bio-Medical Wastes.)

BMW Authorisation No. DPCC/BMW/AUTH/NEWNo/2017/03334

File number of authorization DPCC/(11)(5)(0878)/S-001/BMW-06 [66 71 Date. 01-11-2017 2/11/17

(Authorization for operating a facility for generation, collection, reception, treatment storage, transport and disposal of Bio-Medical Wastes)

1. File number of authorization **DPCC/(11)(5)(0878)/S-001/BMW-06**

2. **Ms. A.I.I.M.S. HOSPITAL** an occupier/operator of the facility located at **Ansari Nagar East New Delhi - 110016** is hereby granted an authorization for

Activity Bio-Medical Waste : **Generation, segregation, Collection, Storage**

3. M/s **A.I.I.M.S. HOSPITAL** is hereby authorized for handling of biomedical waste as per the capacity given below;

(i) Number of beds of HCF:	2362
(ii) Quantity of Biomedical waste handled, treated or disposed:	2000 Kg/Day

Type of Waste Category	Quantity permitted for Handling
(i) Yellow	800 Kg/Day
(ii) Red	550 Kg/Day
(iii) White (Translucent)	100 Kg/Day
(iv) Blue	550 Kg/Day

4. This authorization shall be in force for a period of Five Years valid upto 17-03-2022

5. This authorization is subject to the conditions stated below* and to such other conditions as may be specified in the rules for the time being in force under the Environment (Protection) Act, 1986.

38218/ 25/11/17 Estate office (Hospital) 18/11/17

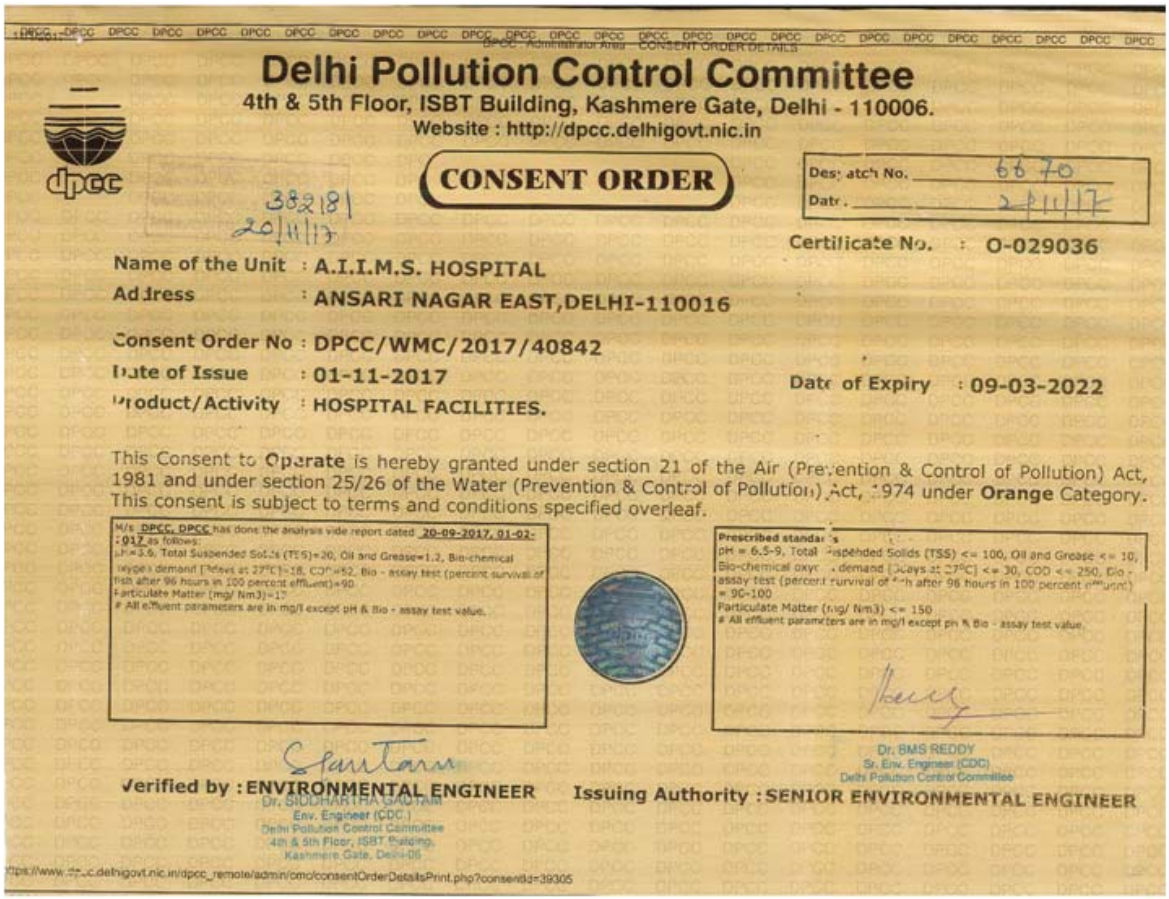
Signature .....Dr. BMS REDDY
Designation : SEE, WM-I Sr. Env. Engineer (CDC) DPCC Pollution Control Committee

*** Terms and conditions of authorization**

1. The occupier shall comply with the provisions of the Environment (Protection) Act, 1986 and the rules made there under.
2. The occupier shall comply with the standards prescribed in Schedule II of Bio-Medical Waste Management Rules, 2016, for the discharge of the Waste Water / Effluent generated.
3. The authorization or its renewal shall be produced for inspection at the request of any officer authorized by DPCC.
4. The person authorized shall not rent, lend, sell, transfer or otherwise transport the bio-medical waste without obtaining prior permission of DPCC.
5. It is the duty of the authorized person to take prior permission of the prescribed authority i.e. Delhi Pollution Control Committee to close down the facility and such other terms and conditions may be stipulated by the prescribed authority.
6. It shall be ensured that the Bio Medical Waste is finally treated within a period of 48 hours. If for any reason it becomes unavoidable, intimation should be given in writing to DPCC and measures are to be ensured so that the waste does not adversely affect human health and the environment.
7. The occupier shall have a valid agreement with the operator of a facility authorized by DPCC for disposal of the bio-medical waste in case the occupier does not treat the waste himself.
8. The occupier shall submit the copy of fresh valid agreement to this office within 15 days of expiry of previous agreement or in case of any change.
9. The occupier shall ensure that bio-medical waste is not mixed with other wastes and is segregated into containers / bags at the point of generation in accordance with Schedule-I (part I). The Bio-Medical Waste shall be handed over to transporter / operator of a CBMWTF duly segregated, labeled, tagged and kept in proper containers for the transportation as per rules.

Annexure-III

Consent to Operate under the Air (Prevention & Control of Pollution) Act 1981 and Water (Prevention & Control of Pollution) Act 1974



Delhi Pollution Control Committee

4th & 5th Floor, ISBT Building, Kashmere Gate, Delhi - 110006.

Website : http://dpcc.delhigovt.nic.in

CONSENT ORDER

Despatch No. 6670

Date 2/11/17

38218 20/11/17

Certificate No. : O-029036

Name of the Unit : A.I.I.M.S. HOSPITAL

Address : ANSARI NAGAR EAST,DELHI-110016

Consent Order No : DPCC/WMC/2017/40842

Date of Issue : 01-11-2017

Date of Expiry : 09-03-2022

Product/Activity : HOSPITAL FACILITIES.

This Consent to Operate is hereby granted under section 21 of the Air (Prevention & Control of Pollution) Act, 1981 and under section 25/26 of the Water (Prevention & Control of Pollution) Act, 1974 under **Orange** Category. This consent is subject to terms and conditions specified overleaf.

M/s DPCC, DPCC has done the analysis vide report dated 20-09-2017, 01-02-2017 as follows:

pH=3.6, Total Suspended Solids (TSS)=20, Oil and Grease=1.2, Bio-chemical oxygen demand [3days at 27°C]=18, COD=52, Bio - assay test (percent survival of fish after 96 hours in 100 percent effluent)=90

Particulate Matter (mg/ Nm3)=17

All effluent parameters are in mg/l except pH & Bio - assay test value.

Prescribed standards

pH = 6.5-9, Total Suspended Solids (TSS) <= 100, Oil and Grease <= 10, Bio-chemical oxygen demand [3days at 27°C] <= 30, COD <= 250, Bio - assay test (percent survival of fish after 96 hours in 100 percent effluent) = 90-100

Particulate Matter (mg/ Nm3) <= 150

All effluent parameters are in mg/l except ph & Bio - assay test value.

Verified by : ENVIRONMENTAL ENGINEER

Dr. SIDDHARTHA GAUTAM
Env. Engineer (CDC)
Delhi Pollution Control Committee
4th & 5th Floor, ISBT Building,
Kashmere Gate, Delhi-06

Issuing Authority : SENIOR ENVIRONMENTAL ENGINEER

Dr. BMS REDDY
Sr. Env. Engineer (CDC)
Delhi Pollution Control Committee

https://www.dpcc.delhigovt.nic.in/dpcc_remote/admin/cmc/consentOrderDetailsPrint.php?consentId=39305

PUNCTURE PROOF CONTAINERS

ON-SITE TREATMENT

TRAINING

OCCUPIER

SHREDDING

BAR-CODING

CBTFW OPERATOR

SEGREGATION

AUTOCLAVING

MICROWAVING

INFECTED WASTE

INCINERATION

IMMUNISATION

COLOUR CODED BINS

ANNUAL REPORT

AUTHORISATION