



All India Institute of Medical Sciences, Jodhpur	
Standard Operating Procedure	
Title: Disposal of bio-medical waste generated at AIIMS Jodhpur AMENDMENT SHEET	
SOP Number: SOP/Micro/BMW/03	Page: 1 of 7
Revision number: 03/01	Department: MICROBIOLOGY
Effective Date: 14/10/19	Replaces: SOP/Micro/BMW/01

S No.	Date	Page No	Revision No	Nature of Amendment Selection/details	Authorization
1	14-10-2019	1-8	03/1	BMW amendment 2018, 2019.	AIIMS Jodhpur
			4.1.1	blades, scalpel, lancets, slides, and stylets of IV cannula.. added	
			4.1.2	For glass waste-puncture-proof, leak-proof white trolley bin with blue marking in procedure trolley-added	
			4.1.3	For Metallic implants- Puncture- proof, leak-proof white trolley bin with blue marking in procedure trolley same as	
			4.1.6	Out-dated medicines and cytotoxic drugs along with glass or plastic ampoules, vials should be discarded in yellow bags in yellow bins labeled	
			4.1.7	Radioactive waste: should be collected separately in leak proof lead shielded containers and labeled and handed over to waste collection team.	
			4.1.9	Unused or partially used blood bags should be returned to blood banks within 1 hour.. added	
7			4.1.10	Specimens containers like blood collection vials, urine, stool, sputum containers, vacutainer vials & ELISA plates should be discarded in red bin and Microbiology laboratory waste (yellow & red coloured) should be microwaved/ autoclaved within department before disposal. It should be marked as "Lab" on the bag with a marker.	
			5.2	Dispose the bags every day twice daily or whenever 3/4 th filled	
			5.4	biomedical waste supervisor on Hospital Information System (HIS).	
			5.7	Intact glass, Broken glass, metal implants from white trolley bins to be collected in cardboard box with blue coloured marking and sent to CTF.	
			9	Scanned Red card to be uploaded on the institute website monthly.	

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1. PURPOSE

The purpose of this SOP is to provide a frame work for management of bio-medical waste generated in hospital to improve efficiency and effectiveness of healthcare.

2. SCOPE

Biomedical waste refers to all waste generated from healthcare & health research facilities and from associated laboratories. Only a small percentage can be deemed infectious or hazardous, these include infected sharps and infected wastes, waste with radioactive or genotoxic characteristics, which if inadequately treated and managed can have adverse impact on the environment.

This SOP will be useful for the clinicians, nursing staff, laboratory personnel, research scientists, immunization OPD, blood banks and housekeeping staff as a guide during waste management which includes segregation, collection, transportation and disposal of bio-medical waste generated in the hospital.

3. RESPONSIBILITY

- 3.1 The BMW committee is responsible for overall waste management at Hospital.
- 3.2 It is the responsibility of the Heads/In charges of the department to ensure that the SOP is correctly followed for biomedical waste management at their places.
- 3.3 It is the responsibility of BMW committee to train faculty, residents, nursing staff, technical assistants and hospital employees for BMW management activity.

4. TYPES OF WASTE AND THEIR SEGREGATION

Segregate waste into infectious and non-infectious waste at the point of generation in the health care facility.

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4.1 Infectious waste- The infectious waste consists of:

4.1.1. Sharps: Needles, blades, scalpel, lancets, slides, and stylets of IV cannula, biopsy needle which are capable of producing piercing injury or cuts are to be disposed in commercially provided sharp containers white translucent containers. They are puncture-proof, leak-proof and tamper proof. If commercial supply is not available, they should be discarded in puncture proof containers which contain freshly prepared hypochlorite. This waste cannot be kept beyond 24 hours. All Sharp waste should be autoclaved within department before disposal.

4.1.2 Intact glass bottles and vials, broken or discarded and contaminated glass including medicine vials, ampoules except those contaminated with cytotoxic waste are to be disposed in puncture-proof, leak-proof white trolley bin with blue marking in procedure trolley.

4.1.3 Metallic body implants will be collected in puncture-proof, leak-proof white trolley bins with blue marking same as for glass waste.

4.1.4. Non-Sharps (soiled waste): Cotton, gauze, dressings, soiled plaster cast, and beddings soiled with blood and body fluids, exudates, secretions, used caps, masks & soiled disposable gowns should be discarded in yellow bins.

4.1.5. Anatomical waste/Animal waste: Organs, tissues, body parts, amputated limbs, placenta, fetus (needs a documentary proof), animals and their body parts should be disposed in yellow bins.

4.1.6. Out-dated medicines and cytotoxic drugs along with glass or plastic ampoules, vials should be discarded in yellow bags in yellow bins labeled with "C" symbol. **Out-dated medicines and cytotoxic drugs preferably to be returned to the supplier.**

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4.1.7. Radioactive waste: should be collected separately in leak proof lead shielded containers and labeled and handed over to waste collection team. It should be stored in designated cement tanks until half-life is over and then it should be sent for deep burial inside a pit. **Out-dated / Non- functional Radioactive waste will be returned to the supplier.**

4.1.8. Non-Sharps (solid waste): Infected plastics, gloves, and catheters, intravenous tubing's, drainage bags, urine bags, disposable endotracheal tubes, vacutainer tubes, syringes (without needles) should be disposed in red coloured bins/bags. Always cut needle and hub of syringe before discarding it in red bins.

4.1.9 Unused or partially used blood bags should be returned to blood banks within 1 hour and further procedure to be followed according to blood bank policy. Bag containing residual or discarded blood or blood component should be discarded in yellow bag. This should be microwaved within department before disposal.

4.1.10 Microbiology, Biotechnology and other clinical laboratory waste: Laboratory cultures, media, stocks, disposable petri dishes; devices used for culture should be autoclaved and discarded in yellow bags.

Specimens containers like blood collection vials, urine, stool, sputum containers, vacutainer vials & ELISA plates should be discarded in red bin and Microbiology laboratory waste (yellow & red coloured) should be microwaved/ autoclaved within department before disposal. It should be marked as "Lab" on the bag with a marker.

Pathological waste like tissue, organs, placenta are to be stored for 6 months duration after that it should be discarded in yellow coloured bags, formalin should be discarded in ETP after neutralization with Formalex. Plastic containers should be discarded in red coloured bag.

4.1.11 Liquid infected waste, chemical used in the production of biological, used or discarded disinfectants and neutralized formalin should be discarded in ETP drains after treatment.

4.1.12 Live or attenuated vaccines should be discarded in yellow bags.

4.1 Non-infectious (general) waste: It is divided into two, dry waste and wet waste. Dry general waste like packaging material, cartons, wrappers, medicine covers should be disposed in blue plastic bins. However, wet general waste like fruit and vegetable peels, leftover food should be disposed in green plastic bins. No liquid waste/water should be discarded in green bag.

4.2 Household biomedical waste should be segregated as per rules & handed over to municipal waste collectors separately.

5 COLLECTION AND STORAGE

5.1 Always collect the waste in covered bins/bags and never mix infectious and non-infectious waste in same bin.

5.2 Dispose the bags every day twice daily or whenever 3/4th filled.

5.3 Before collecting the bag tie it with a nylon string and label with a barcoded tag.

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5.4 The tag should be scanned by the biomedical waste supervisor on Hospital Information System (HIS). It is tracked by GPRS system by BMW supervisors.

5.5 Clean the bins weekly with soap and water/disinfect the bins regularly. Never store waste beyond 24 hours.

5.6 Do not send treated biomedical waste with municipal solid waste.

5.7 Intact glass, Broken glass, metal implants from white trolley bins to be collected in cardboard box with blue coloured marking and sent to CTF.

6 TRANSPORTATION OF WASTE.

6.1 Transport the waste in closed collection trolleys with Biohazard label and ensure that there should be no leakage.

6.2 Transport waste through a pre-defined route through less crowded area within the hospital.

6.3 The bio medical waste collected in trolleys to be transported in fully covered rickshaw to WMC (Waste Management Cell). Such vehicle to be dedicated for transportation of Bio-medical waste only.

7. TREATMENT AND DISPOSAL OF LIQUID WASTE

7.1. Liquid waste: Liquid infected waste, chemical waste and used disinfectants to be treated with 1-2 % sodium hypochlorite for 30 minutes before flushing in drains with excessive water. After neutralization, it should be released in sink attached to ETP plant. Hypochlorite is corrosive; it should be used carefully with metals.

7.2 Spills: Infected spillage should be reported and should be cleaned with freshly prepared 1-2 % sodium hypochlorite solution after donning personal protective equipment and cordoning the area with a yellow tape. Blood spill to be managed according to SOP No. SOP/Micro/BMW/05 for spill management. Spill kits should be available in all areas of the hospital.

7.3 Mercury spills: If mercury spill occurs then immediately let the space be properly ventilated, wear all the Personal Protective Equipment (PPE) then collect mercury with either two pieces of paper cardboard or a syringe then pour it in half filled vial with water and seal it tightly, label it as "mercury spill" with ward name, date and hand over it for final disposal to BMW collection staff.

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8. ACCIDENT REPORTING

8.1. All accidents like any needle stick injury (NSI), any significant infected liquid spillage including blood spillage should be reported to Microbiology IPD lab.

8.2. Patient bed side bins to be regularly cleaned. Plastic bags should be lined in them.

8.3 Each ward has procedure trolley and injection trolley with red, yellow, green, white bins for segregation of waste at patient bed side during any procedure or injection rounds.

It is the duty of the in charge nurse that all bins to be cleaned and emptied after the procedure or injection round is over.

9. RECORD KEEPING

Documentation of collection, storage and transportation of Bio Medical Waste from different areas of hospital is to be maintained daily manually on red card as well as electronically on HIS system.

Scanned Red card to be uploaded on the institute website monthly.

10. References

10.1 Guidelines for health care workers for waste management and infection control in community health centers by Ministry of health and family welfare, Govt. of India. 1998

10.2 Revised Guidelines for common biomedical waste treatment facilities, Central Pollution Control Board (Ministry of Environment and Forests) September, 2011

(Note: 1998 Rules of BMW management by MoEF are followed in this SOP.)

10.4 Safe management of wastes from health-care activities. WHO Blue book. Second edition, 2014.

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11. RECORD KEEPING

Documentation of collection, storage and transportation of Bio Medical from different areas of hospital is to be maintained daily manually on red card as well as electronically on HIS system.

* Supply of BMW bags will be carried out on weekly basis to ICU, OT, IPD & OPD.

Scanned Red card will be uploaded on our website monthly.

12. References

10.3 Guidelines for health care workers for waste management and infection control in community health centers by Ministry of health and family welfare, Govt. of India. 1998

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