

POLICY ON BIO-MEDICAL WASTE MANAGEMENT FOR BMW FROM PATIENTS IN NOVEL CORONA VIRUS WARD/OPD



REFERENCES

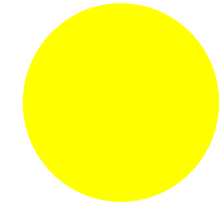
- BMWM (Principal) rules 2016 and
- BMWM (Amendment) rules 2018, 2019,
- National IPC guidelines 2020,
- CDC and WHO IPC update Jan 2020
- SJH & VMMC Policy on Biomedical waste management of nCOV



Biomedical waste devices, articles generated during diagnosis, treatment, management, immunization etc from patients with nCoV and HCW working in such ward/OPD should be managed in accordance with safe routine procedures and rules.



YELLOW CATEGORY

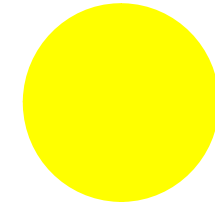


Human Anatomical Waste

- **Human tissues, biopsy:** Yellow coloured non-chlorinated plastic bags.
- **Animal anatomical waste:** Not applicable in nCorona virus ward/OPD (only in nCoV research labs)



YELLOW CATEGORY

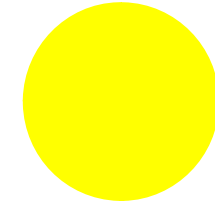


Soiled Waste

- Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs and bags containing residual or discarded blood and blood components are disposed off in yellow bag.



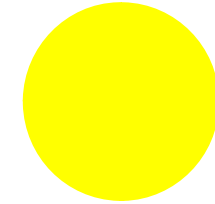
YELLOW CATEGORY



- Cytotoxic drug vials shall not be handed over to unauthorised person under any circumstances. Expired cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature $>1200^{\circ}\text{C}$. Leftover cytotoxic drugs and items contaminated with cytotoxic drugs along with glass or plastic ampoules, vials etc to common biomedical waste treatment facility for incineration at $>1200^{\circ}\text{C}$ in yellow bag or container with cytotoxic label.



YELLOW CATEGORY

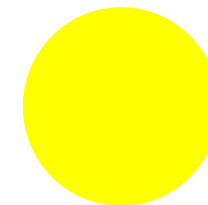


Chemical Waste

- Chemicals used in production of biological and used or discarded solid disinfectants, residual or discarded chemical solid waste and chemical sludge are discarded in yellow coloured non-chlorinated plastic bags or containers and disposed of by incineration by CBMWTF.



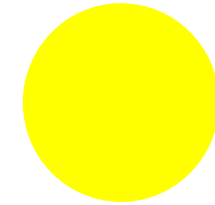
YELLOW CATEGORY



- **Liquid waste** generated due to use of chemicals in production of biologicals, used or discarded disinfectants, patients samples infected secretions, aspirated body fluids liquid from laboratory, ward, OT and disinfecting activities etc should be collected separately and made safe by disinfection by chemical treatment using **1-2% sodium hypochlorite** solution for a **contact period of 30 min** and directed to **effluent treatment system** or then discharged into drains/sewers.



YELLOW CATEGORY

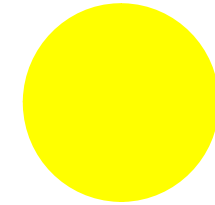


Discarded items

- **Linen, Mattresses, beddings** contaminated with blood or body fluid Non-chlorinated (lime/alcoholic: 5 % Lysol for 30 minutes, 5% Phenol for 30 min) or 1-2% sodium hypochlorite chemical disinfection followed by shredding and customised to fit in non chlorinated yellow bag for incineration.



YELLOW CATEGORY

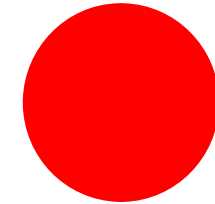


Microbiology, biotechnology waste

- **Microbiology, biotechnology waste** i.e. laboratory cultures, stocks or specimens of microorganisms, live or attenuated vaccines, humans and animals cell culture used in research, residual toxins culture plates dishes have to be pretreated on site by autoclaving in an autoclave safe plastic bag/container there after sent for final disposal in its respective colour category to CBMWTF. The discarded blood bags are to be counted, sealed, weighed and all the records to be made and then packed in autoclave safe plastic bags or containers to be autoclaved on site and then sent in yellow bag to CBMWTF for incineration.



RED CATEGORY

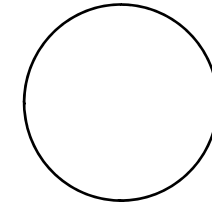


Contaminated Waste (Recyclable)

- Wastes generated from disposable items such as tubing, drains, oxygen mask, bottles, intravenous tubes and sets (with needles cut), catheters, urine bags, and gloves are nicked, wherever applicable and put in red bag. The needles of syringes are cut with the needle destroyer/needle cutter preferably. The cut/mutilated syringe is disposed finally in red coloured non chlorinated plastic bags or containers.



TRANSLUCENT (WHITE) CATEGORY

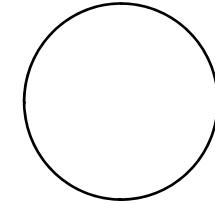


Translucent (White) Category

- Waste sharps including Metals: Needles, needles from needle tip cutter or burner, scalpels, blades or any other contaminated sharp object that may cause puncture and cuts. The needles of syringes are cut with the needle destroyer/needle cutter preferably.



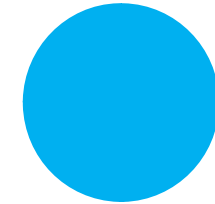
TRANSLUCENT (WHITE) CATEGORY



- This includes both used, discarded and contaminated metal sharps. These are stored in tamper proof, leak proof and puncture proof containers for sharps storage. Collect and send for final disposal when 3/4 full. These are sent to central common waste site in tamper proof, leak proof and puncture proof containers for final disposal to CBMWTF.



BLUE CATEGORY GLASS AND METALLIC IMPLANTS



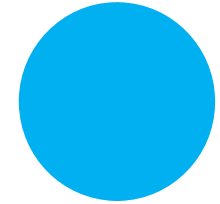
- The blood sample glass vials or broken or discarded and contaminated glass like slides etc, have to be disinfected (1-2% sodium hypochlorite for 30 minutes atleast) to be packed in puncture proof and leak proof boxes or containers with blue colored marking and then sent to common central waste site for final disposal to CBMWTF.



COLOR-CODED BAGS & COLOUR CATEGORY WISE TREATMENT



BLUE CATEGORY GLASS AND METALLIC IMPLANTS



- The uninfected glass like medicine bottles or ampoules are non infected and are put in puncture proof and leak proof boxes or containers with blue coloured marking. The metallic implants are pre-treated in the same manner and are to be packed in separate puncture proof and leak proof boxes or containers with blue coloured marking.



CATEGORY	TYPE OF WASTE	TYPE OF BAG OR CONTAINER TO BE USED	TREATMENT AND DISPOSAL OPTIONS
Y E L L O W	Human Anatomical Waste	Yellow coloured non chlorinated plastic bags	Incineration by CBMWTF
	Animal Anatomical Waste		
	Soiled Waste: Items contaminated with blood, body fluids like dressings, plaster casts, cotton swabs		Incineration by CBMWTF



	<p>Expired or Discarded Medicines: antibiotics, cytotoxic drugs</p>	<p>Yellow coloured non chlorinated plastic bags or containers with cytotoxic labels</p>	<p>Expired cytotoxic drugs to be returned back to the manufacturer or supplier for incineration at temperature >1200 °C. Leftover cytotoxic drugs and items contaminated with cytotoxic drugs Along with glass or plastic ampoules, vials etc to common biomedical waste treatment facility for incineration at >1200 °C.</p>
--	--	--	--



	<p>Chemical Waste: solid discarded chemicals</p>	<p>Yellow coloured non chlorinated plastic bags or containers</p>	<p>Disposed of by incineration by CBMWTF</p>
	<p>Chemical Liquid Waste: Liquid Waste generated due to use of chemicals and used or discarded disinfectants.</p>	<p>Separate collection system leading to effluent treatment plant (ETP) system.</p>	<p>After resource recovery, the chemical liquid waste shall be pre-treated before mixing with other wastewater. The combined discharge shall conform to the discharge norms given in BMWM rules, 2016</p>



	<p>Discarded linen: contaminated with blood or body fluid. Routine mask and gown</p>	<p>Non-chlorinated yellow plastic bags or suitable packing material</p>	<p>Non-chlorinated (alcoholic: 5%lysol, 5% phenol) chemical disinfection Followed by incineration. Incineration</p>
	<p>Microbiology, Biotechnology and other clinical laboratory waste, PVC Blood bags</p>	<p>Autoclave safe plastic bags or containers</p>	<p>Autoclave or Pre-treat to disinfect.** Treated waste to be sent to CBMWTF for incineration.</p>



**R
E
D**

Contaminated Waste (Recyclable) Plastics tubing, bottles, intravenous tubes and sets, catheters, urine bags, syringes(without needles and fixed needle syringes) and vacutainers with their needles cut) and gloves

Red coloured non chlorinated plastic bags or containers

Autoclaving/Chemical disinfection. Treated waste to be sent to CBMWTF who would send such waste to registered or authorized recyclers or for energy recovery



W H I T e (Transl ucent)	Waste sharps	Puncture proof, Leak proof, tamper proof containers	Disinfection/Autoclaving or dry heat sterilization/ sent to CBMWTF and who will ensure final disposal to iron foundries(having consent to operate from the SPCB/PCC.
---	---------------------	--	---



B L U E	Glass: medicine glass vials or broken or discarded and contaminated glass	Puncture proof and leak proof boxes or containers with blue coloured marking	Autoclaving/Microwaving/hydroclaving by CBMWTF and then recycling. Contaminated glass slides require pretreatment (disinfection by sodium hypochlorite)
	Metal implants/metal guns etc	Puncture proof and leak proof boxes or containers with blue colored marking	



- Barcode label will have to be made available on every bag or container as per CPCB guidelines
- For disinfection of BMWM articles freshly prepared 1-2% Sodium hypochlorite is recommended
- 1% Sodium hypochlorite is 1:100 dilution (525-615 ppm of available chlorine)
- Hospital supply of sodium hypochlorite is 10% or 4% (please see label and manufacturers instructions)
- All lab waste, patient's samples, blood bags, toxins, live vaccines, cultures (liq/solid), devices used to transfer cultures need pre-treatment



ARTICLES: BINS, BAGS, TROLLEYs

- **Bags:** The bags used for storing and transporting biomedical waste shall be in compliance with the Bureau of Indian Standards. Till the Standards are published, the carry bags shall be as per the Plastic Waste Management Rules, 2016.
- **Yellow, Blue, Red** and translucent bags/bins/containers are marked with Biohazard symbol, hospital logo and with barcoding to be supplied by CBMWTF.



BINS

- Containment of waste: An optimum number of easy to use, standard, uniform, covered, foot operated bins of colors i.e, yellow, red bins of appropriate size would be placed at identified places in all clinical areas.
- **DISINFECTION OF BINS:** Chemical disinfection of the waste bins using **hypochlorite solution (1-2%)** should be done frequently at a separate washing facility in the hospital, daily preferably, at least once a week.



SEGREGATION, PACKAGE AND THEN TRANSPORT AND STORAGE TO COMMON WASTE SITE

All the biomedical waste is labeled as waste type, site of generation, date of generation before transportation from the generation site.

Waste is stored in the areas of generation at an identified safe area, for an interim period after which it is transported to CBMWTF for final treatment and final disposal.



During this period it is the responsibility of the administration, sanitation and security staff to ensure the safety and prevention of pilferage and recycling of the waste. No untreated bio-medical waste shall be kept stored beyond a period of 48 hours.



Collection is done

Done twice daily or more frequently from wards/laboratories

Label is filled up by staff on duty and given to waste collectors



Each patient care area has been provided with the waste receipt (log) book to record the quantity /number of yellow, blue, red, white (translucent) bags handed over to HCW. All the staff are required to duly fill in the waste book color code wise mentioning the number and size of bags handed over and sign the slip for further record and also to fill BMW register daily colour category wise.



TRANSPORTATION

- Hospital waste is transported in securely tied bags from the site of generation to central waste storage site through designated route, on dedicated, color coded, covered and leak proof wheel barrows/Trolleys. At the waste treatment premises verification of the number/size of the bags is done for each trolley by the sanitation staff for recording and quantification and barcoding before disposal.
- The central waste storage site is cleaned daily. Chemical disinfection of the trolleys using hypochlorite solution is being done at the waste storage site, should be cleaned and disinfected daily.



TRANSPORTATION TO CBMWTF

The operator of CBMWTF shall transport the bio-medical waste from the premises of an occupier to any off-site bio-medical waste treatment facility only in the vehicles having label as per BMWM (Principal) rules, 2016. The vehicles used for transportation of bio- medical waste shall comply with the conditions stipulated by the SPCB in addition to the requirement contained in the Motor Vehicles Act, 1988 (59 of 1988), or the rules made there under for transportation of such infectious waste.





THANK YOU

