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CIRCULAR

SOP for Management of Biomedical Waste in COVID situations - 09-05-2020 (Version 1.0)

In order to deal with COVID-19 pandemic, Government of Karnataka has initiated various steps, which include setting up of quarantine centers/camps, Isolation wards, sample collection centers and laboratories.

The waste generated in the above settings should be handled with utmost care and disposed safely such that it does not harm the human health or environment.

The following Standard operative procedures are based on current guidelines issued by CPCB and NGT directions; they shall be updated from time to time based on guidelines issued by WHO, MoH&FW, ICMR, CPCB, CDC and other concerned agencies.

1. Authorization:

- Fever clinics/ COVID Care Centres/DCHC /Dedicated COVID Hospital (DCH) which are already authorized should intimate the starting of COVID services to the respective CBWTF and KSPCB.
- As per BMW rules 2016, Quarantine wards come under the ambit of Health camps and they do not require authorization, but need to report to respective CBWTF and KSPCB.

2. Fever clinic/ DCHC/ Dedicated COVID Hospital/ wards/ICU/ COVID-19 sample collection centers and laboratories

2.1. Person responsible:

- Nodal officer designated for Biomedical waste management/ Waste management committee is responsible to ensure safe management and disposal of BMW
- Report opening or operation of COVID-19 ward, COVID ICU/ ward, COVID-19 sample collection centers and laboratories to KSPCB and respective Common Biomedical Waste Treatment Facility (CBWTF) located in the area.
- Designated space to be provided for waste bins at all these facilities.
- Depute dedicated sanitation workers separately for biomedical waste and general solid waste so that waste can be collected and transferred within time to temporary waste storage area. Deputed sanitation worker shall be provided with adequate PPEs and it should be ensured he /she is using the PPE properly and regularly.
- Use of PPE by waste handler should be monitored by the nurse/ lab technician working at COVID ward/ICU.

2.2. Segregation and containment:

- BMW Rules 2016 to be followed and segregation of waste should be at point of generation. No change in segregation as per color code (**Annexure-1**)
- Keep separate color coded bins/bags/containers inwards and maintain proper segregation of waste as per BMW Rules,2016 as amended.
- Dedicated four color coded bins with liners with biohazard symbol should be provided at points of generation.
- In addition to mandatory labeling, bags/containers used for collecting biomedical waste from COVID -19 wards, should be labeled as "COVID-19 waste". This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon receipt.
- Yellow, Red and blue Waste bins should be covered and be foot operated. Tamper proof, leak proof, puncture proof, white translucent container to be used for sharps waste.
- As precaution double layered bags (using 2 bags) should be used for collection of waste (Red, Yellow and Blue) from COVID-19 isolation wards so as to ensure adequate strength and prevent leakage. Additional packing if required can be done to prevent any spillage or leaks with outer labeling of COVID-19.
- Collect and store biomedical waste separately prior to handing over the same to CBWTF.
- Any disposable materials (Ex: plates, cups, food waste etc.) used by the COVID positive patients should be considered as BMW. Contaminated general waste generated in isolation wards/ ICU to be disposed into yellow bin. Contaminated plastic general waste (Water bottles, plastic plates & cups etc) to be disposed to yellow bin.

2.3. Storage and on site- transportation:

- The frequency of waste collection must be done at least once a day or once 3/4th filled.
- Barcoding to be ensured for documentation of quantum of waste
- Designated trolley should be used for transportation of waste from COVID wards to storage area or to the CBWTF vehicle directly. Trolley should be **labeled** as **COVID-19**.
- Predefined route should be followed for transportation of waste where there is minimal contact with other health care staff or patients.
- Designated temporary storage space to be allocated in the respective centers
- Use dedicated collection bin labeled as "COVID-19" to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorized staff of CBWTF.
- Alternatively, biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWTF collection van.

2.4. Onsite disinfection:

- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite daily.
- Sharps waste should be disinfected with freshly prepared 1% Sodium hypochlorite solution and handed over to CBWTF once 3/4th filled. (Preparation of 1% Sodium Hypochlorite solution is given in **Annexure-2**)
- It is also preferable to pretreat waste in blue container with 1% Sodium Hypochlorite solution
- As per BMW rules 2016, all Laboratory waste including that of COVID -19 tested should be autoclaved / microwaved and disposed in red bin before handing it over to CBWTF.

2.5. Records

- Maintain separate records for waste generated from COVID-19 isolation wards.
- Display the reports on website

3. Quarantine Camps/ Home-Care /COVID care centers (CCC)

- Quarantine Camps/ Quarantine-Home/ Home-care/ CCC are the places where suspected people or the contacts of suspected/ confirmed cases who have been directed by authorized hospitals or local authorities to stay at home for at least 14 days for observation for any symptom of COVID-19, if any.
- Patients' positive for COVID-19 will not be treated at Quarantine Camps/ Quarantine-Home/ Home-care unless such situation is notified by the State Government.
- Less quantity of biomedical waste is expected from quarantine Camps/ Home Quarantine/ CCC. However, the persons responsible for operating quarantine camps/centers/CCC need to follow the below mentioned steps to ensure safe handling and disposal of waste
- Biomedical waste generated from such places would be treated as 'domestic hazardous waste' as defined under Solid Waste Management Rules, 2016, and shall be disposed as per provisions under Biomedical Waste Management Rules, 2016.

3.1. Responsibility:

- It shall be the responsibility of the Urban local bodies (ULB)/ District authorities to ensure that a proper mechanism is established such that general waste and biomedical waste is collected and disposed appropriately.
- Persons operating Quarantine centers should call the CBWTF operator to collect biomedical waste as and when it gets generated.
- CBWTF should make necessary arrangement to collect the waste at door step or at designated collection points as identified.

3.2. Segregation : Waste generated at Quarantine facility/ Home care should be separated as General solid waste and Biomedical waste

- **General solid waste (household waste)** - should be handed over to waste collector identified by ULB/ District authorities or as per the prevailing local method of disposing general solid waste.
- **Biomedical waste**
 - will comprise of used syringes, date expired or discarded medicines, used masks/ gloves and in case of patients with other chronic diseases may also include drain bags, urine bags, body fluid or blood-soaked tissues/ cotton, empty ampules etc.
 - should be collected separately in yellow colored bags (suitable for biomedical waste collection) provided by ULBs/ District authorities.
 - These bags can be placed in separate and dedicated dust-bins of appropriate size.

3.3. Collection of Biomedical waste:

- Persons taking care of quarantine home/ Home-care should deposit biomedical waste if any generated from suspected or recovered COVID-19 patients, by following any of the following methods as may be arranged by ULBs/District authorities
 - Door to door collection of biomedical waste from the quarantine centers by the personnel from CBWTF.
OR
 - Biomedical waste from the quarantine centers to be collected by authorized personnel and deposited at a designated centre for CBWTF to pick up.
OR
 - Handover the yellow bag to an authorized waste collector at door step engaged by the ULB/ District authorities.
- Separate vehicle to be used for collection of waste generated from the Quarantine centers

- Persons operating Quarantine camps/ centers or Quarantine-homes/ Home-care should report to ULBs/ District authorities in case of any difficulty in getting the services for disposal of solid waste or biomedical waste.

4. Special considerations:

4.1. Faeces:

- Faeces from COVID-19 confirmed patient, who is unable to use toilets and excreta is collected in diaper, must be treated as biomedical waste and should be placed in yellow bag/container.
- If a bedpan is used, then faeces should be washed into toilet and cleaned with natural detergent and water, disinfected with a 1% Sodium hypochlorite solution, then rinsed and cleaned with water

4.2. PPE

- Occupier shall provide appropriate PPE for waste handlers and waste collectors
- Goggles, Gloves, Face shield, splash proof apron, plastic overall, Hazmat suit, nitrile gloves should be disposed in red bag
- Used masks (triple layer mask and N95 mask), Head shoe cover, cover/cap, disposable, linen, gown, non-plastic or semi-plastic coverall in yellow bags.
- Pre-treat viral transport media, plastic vials, Eppendorf tubes, plastic cryovials, pipette tips as per BMW rules 2016 and collect in red bag
- Used masks and gloves from quarantine or other households- paper bag for minimum of 72 hours prior to disposal, (cut the masks prior to disposal to prevent re-use)

4.3. Waste water from HCFs:

- Ensure disinfection of treated waste water with 1% Sodium hypochlorite / prevailing practices to inactivate corona virus
- Operators of ETP/STP – Standard operative procedures, practice basic hygiene precautions and wear PPE – Face mask, Gloves, liquid repellent coveralls, waterproof gloves and rubber boots)
- During COVID-19 Pandemic, utilization of treated waste water in utilities of Health care facilities such as gardening, flushing of toilet etc. should be avoided.

4.4. Blood/ Body fluid spill management : Follow steps of spill management as described in Annexure-3

5. Duties of Urban Local Bodies/ District authorities:

- 5.1. Urban Local Bodies are responsible for ensuring safe collection and disposal of biomedical waste, if any, generated from Quarantine Camps/Quarantine Homes/ Home Care for COVID-19 suspected persons.
- 5.2. Should maintain the list of Quarantine Camps/Quarantine Homes/ Home-Care and report to SPCBs from time to time
- 5.3. ULB/ district authorities shall engage CBWTF operator for ultimate disposal of biomedical waste collected from quarantine home/home care or waste deposition centers or from door steps as may be required depending on local situation; ULB/ District authorities shall make agreement with CBWTF in this regard.
- 5.4. Ensure lifting of Biomedical waste from quarantine camps by identified CBWTF at least once a day by either of the methods
 - Engage authorized waste collectors for door steps collection of biomedical waste and transfer to collection points for further pick-up by CBWTF; and/or