

STANDARD OPERATING PROCEDURES (SOPS)

for

INFECTION CONTROL & PREVENTION

(COVID -19)



National Health Mission

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Corona Virus Disease 2019(COVID-19): Standard Operating Procedure (SOP) for Infection Control and BMW for COVID-1

INTRODUCTION :

This SOP is applicable to current phase of COVID-19 Pandemic in India, where in as per plan of action, all suspect cases are admitted to isolation facilities. These aims to guide the Health care providers /supportive programme officers/ to follow infection prevention & biomedical waste management protocols of the screening areas/ quarantine camps /transportation/ Isolation wards/ICU/ Laboratory .

INFECTION CONTROL AND PREVENTION MEASURES

BENEFITS OF INFECTION PREVENTION CONTROL :

- A. Protecting yourself
- B. Protecting your patients
- C. Protecting your family, community & environment

GOAL OF INFECTION PREVENTION CONTROL:

1. To reduce transmission of health care associated infections
2. To enhance the safety of staff, patients and visitors
3. To enhance the ability of the organization/health facility to respond to an outbreak
4. To lower or reduce the risk of the hospital (health care facility) itself amplifying the outbreak

GENERAL ADVICE FOR COVID-19:

1. Avoid close contact with people suffering from acute respiratory infections.
2. Maintain distance of at least 1 meter from any individual .
3. Frequent hand hygiene, especially after direct contact with ill people or their environment.
4. Avoid touching your eyes, nose, or mouth with unhygienic hands.
5. People with symptoms of acute respiratory infection should practice
 - Respiratory etiquette
 - Wear a medical mask (Wear triple layer mask)
 - Seek medical care for advice

STANDARD PRECAUTION:

HAND HYGIENE:

Effective hand hygiene plays a very important role in infection prevention and control and in reducing the risk of infection in health care settings.

Hand Washing : Duration: min 40-60 Seconds Hand Sanitizer : Duration : 20-30 seconds

Types of Hand Hygiene :

Hand washing with soap and water is the most frequent way of cleaning the hands in the hospital. Hand Sanitization is a quick and convenient and alternative to hand washing for already physically clean hands which are not visibly contaminated with dirt or organic material, especially when soap and water for hand washing is not readily available.

❖ **Remember, Hand Hygiene is the most important and effective measure for COVID-19 Prevention.**

My 5 Moments for Hand Hygiene relevant to COVID-19:

1. Before touching a patient,
2. Before clean/aseptic procedures,
3. after body fluid exposure/risk,
4. After touching a patient,
5. After touching patient surroundings.

❖ **Moments 1 & 4 relevant to COVID-19: Also include after shaking hand, sneezing or coughing, touching PPE, doffing of PPE.**

Infection prevention control measures in :

SCREENING /TRIAGE AREA :

The triage or screening area requires the following equipment:

Screening questionnaire
Hand hygiene equipment (sanitizer, water, soap and posters) Waste bins and access to cleaning /disinfection
Triple layer mask

TRANSPORT OF INFECTIOUS PATIENTS:

- **Infected or colonized areas of the patient's body are covered: -**
 - For contact isolation this may include a gown, sheets or dressings to surface wounds; these patients are transferred to a Standard Pressure or Protective Environment Isolation room
 - For respiratory isolation the patient is dressed in a mask, gown and covered in sheets; these patients are accommodated in a Negative Pressure Isolation Room
 - **For quarantine isolation** the patient may be transported in a fully enclosed transport cell or isolator with a filtered air supply and exhaust; these patients are accommodated in a high level quarantine isolation suite.
- The transport personnel remove existing PPE, cleanse hands and transport the patient on a wheelchair, bed or trolley, applying clean PPE to transport the patients and when handling the patient at the destination.
- A combination of nominated lifts, corridors and a bed transfer floor would assist in the movement of infectious patients through the hospital and minimize the risk of spread of infection

Equipment disinfection Use in Ambulance/Transportation

Equipment and surfaces are contaminated if they have come in contact with patient's skin, blood or body fluids. These can spread infection. Therefore, it is mandatory that these are cleaned and disinfected using 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypo chlorite or alcohol based disinfectants at least once daily and after every patient contact. Patient care items and surfaces that can contribute to the spread of infection include:

- Stethoscopes
- Blood pressure cuff
- Monitors
- Stretchers ,backboards
- immobilization devices Laryngoscope blades
- Radios/mobiles
- Shelves
- Door handles

Other items and surfaces in ambulance or transport vehicle

Decontamination of ambulance :

- Decontamination of ambulance needs to be performed every time a suspect/confirmed case is transported in the ambulance. The following procedure must be followed while decontaminating the ambulance:
- Gloves and Triple Layer masks are recommended for sanitation staff cleaning the ambulance.
- Disinfect (damp wipe) all horizontal, vertical and contact surfaces with a cotton cloth saturated (or microfiber) with a 1% sodium hypochlorite solution or 1% Bleaching Powder Solution (Chlorine solution). These surfaces include, but are not limited to: stretcher, Bed rails, Infusion pumps, IV poles/Hanging IV poles, Monitor cables, telephone, Countertops, sharps container. Spot clean walls (when visually soiled) with disinfectant-detergent and windows with glass cleaner. Allow contact time of 30 minutes and allow air dry.
- Damp mop floor with 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypochlorite disinfectant. **(Preparation of Hypochlorite solution furnished Annexure I)**
- Discard disposable items and Infectious waste in a Bio/Hazard bag. The interior is sprayed with 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypochlorite. The bag is tied and exterior is also decontaminated with 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypochlorite and should be given to the hospitals to dispose of according to their policy
- Change cotton mop water containing disinfectant after each cleaning cycle.
- Do not place cleaning cloth back into the disinfectant solution after using it to wipe a surface.
- Remove gloves and wash hands .
- The receiving Hospital should ensure that Ambulance is not sent back without proper disinfection.

Decontamination of Private ambulance/Vehicle

Local authorities should prepare a line list of all private ambulance service providers in their respective areas. These ambulances should be linked with centralized call centre so as to ensure adequate number of ambulances based on population and time to care approach (Avg. response time of 20 minutes). Orientation on Infection Prevention Protocols and protocols for transporting COVID patients should also be ensured for staff of these ambulances. To ensure response time of 20 minutes, ambulances should be strategically located at hospitals, police stations.

Only identified and designated ambulances should be used for transportation. People, health functionaries, nursing homes, private clinics, hospitals should be made aware to use ambulance services for COVID patients being provided through toll free numbers. Otherwise it might increase the chances of transmission of infection. Every district should facilitate empanelling of ambulances other than those in the public health system even if the present situation may not require using them. To minimize the risk of transmission, **it is strongly recommended that if other than empanelled ambulances are bringing COVID or suspect patients, such vehicles need to be quarantined for thorough cleaning and disinfection and should only be released after certification by district administration/ district health official**

ISOLATION WARD /ICU:

Infection Control Measure in Isolation Ward /ICU:

- As sufficient single rooms are not available, beds could be put with a spatial separation of at least 1 meter (3 feet) from one another.
- It should be in a segregated area which is not frequented by outsiders.
- There should be double door entry with changing room and nursing station. Enough PPE should be available in the changing room with waste disposal bins to collect used PPEs.
- Used PPEs should be disposed as per the **BMWM guidelines**.
- **Place appropriate waste bags in a bin.** If possible, use a touch-free bin. Ensure that used (i.e. dirty) bins remain inside the isolation rooms.
- **Place a puncture-proof container for sharps disposal inside the isolation room/area and bio-medical waste should be managed as per the BMWM guidelines.**
- Non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff, and sphygmomanometer), Any patient-care equipment that is required for use by other patients should be thoroughly cleaned and disinfected before use.
- Place an appropriate container with a lid outside the door for equipment that requires disinfection or sterilization.
- Ensure that appropriate hand washing facilities and hand-hygiene supplies are available. Stock the sink area with suitable supplies for hand washing, and with alcohol-based hand rub, near the point of care and the room door.
- Ensure adequate room ventilation. If room is air-conditioned, ensure 12 air changes/ hour and filtering of exhaust air. A negative pressure in isolation rooms is desirable for patients requiring aerosolization

procedures (intubation, suction nebulisation). These rooms may have standalone air-conditioning with Hepa Filter . These areas should not be a part of the central air-conditioning.

- If air-conditioning is not available negative pressure could also be created through putting up 3-4 exhaust fans driving air out of the room.
- The isolation ward should have a separate toilet with proper cleaning and supplies.
- ❖ *Avoid sharing of equipment, but if unavoidable, ensure that **reusable equipment is appropriately disinfected between patients.***
- Ensure regular cleaning and proper disinfection of common areas, and adequate hand hygiene by patients, visitors and care givers. Keep adequate equipment required for cleaning or disinfection inside the isolation room or area, and ensure scrupulous daily cleaning of the isolation room or area.
 - ❖ **Visitors to the isolation facility should be restricted**
- *All health staff involved in patient care should be well trained in the use of PPE.*

Cleaning Protocol of Clinical Equipments used for patient care in Isolation ward /ICU :

- Ventilator, Pulse oximeter , cardiac monitor along with other gazettes used in ICU for patient care need to be cleaned with 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium Hypochlorite and dried thoroughly . Special care should with taken with electrical items .should use a damp cloth only .
- Disinfection of suction jars & tubing's , laryngoscope,O₂Humidifiers to be done with 2% Glutraldehyde.
- Patient must be provided with individual BP instruments /Cuff ,Thermometers , and should be cleaned with 70% ethyl alcohol.
- Trolley tops, monitors leads need to be cleaned with 70% ethyl alcohol.
- **Disposable items must be discarded as per BMW rules 2016& 18**
- All autoclaved items should be sealed in bags for transfer to CSSD/ Sterilization room

PERSONAL PROTECTIVE EQUIPMENT:

Personal protective Equipment (PPE): Use to safe work practice to protect yourself and limit the spread of infection.

Suggested PPE for Management of Suspected or Confirmed Cases of COVID -19

Respiratory protection	FFP2 or FFP3 respirator (valved or non-valved version)*
Eye protection	Goggles (or face shield)
Body protection	Long-sleeved water-resistant gown
Hand protection	Gloves
* In case of shortage of respirators, the use of face masks (surgical or procedural masks) is recommended. When this type of PPE is used, the limitations and risks connected to its use should be assessed on a case-by-case basis.	

PPE to be used in the OPD (Separate Screening area)


Setting	Activity	Risk	Recommendations
Triage area	Triaging patients Provide triple layer mask to patient.	Moderate Risk	N 95 Mask Gloves
Screening area help desk/ Registration counter	Provide information to patients	Moderate Risk	N 95 Mask Gloves
Temperature recording station	Record temperature with hand held thermal recorder	Moderate Risk	N 95 Mask Gloves
Holding area/ waiting area	Nurses / paramedic interacting with patients	Moderate Risk	N 95 Mask Gloves
Doctors chamber	Clinical management (doctors, nurses)	Moderate Risk	N 95 Mask Gloves
Sanitary staff	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate Risk	N 95 Mask Gloves
Visitors accompanying young children and elderlies	Support in navigating various service areas	Low Risk	Triple layer medical mask



PPE to be used in the IPD :

Setting	Activity	Risk	Recommended PPE	Remarks
Individual isolation rooms/ cohorted isolation room	Clinical management	Moderate risk	N 95 mask Gloves	Patient masked. Patients stable. No aerosol generating activity
ICU/ Critical	Critical care	High risk	Full complement of PPE	


ICU /critical care	Dead Body packaging	High risk	Full complement of PPE	
ICU/ Critical care	Dead body transport to mortuary	Low Risk	Triple Layer medical mask Gloves	
Sanitation	Cleaning frequently touched surfaces/ floor/ changing linen	Moderate risk	N-95 mask Gloves	
Other Non-COVID treatment areas of hospital	Attending to infectious and non-infectious patients	Risk as per assessed profile of patients	PPE as per hospital infection prevention control practices.	No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas.
Caretaker accompanying the admitted patient	Taking care of the admitted patient	Low risk	Triple layer medical mask	The caretaker thus allowed should practice hand hygiene, maintain a distance of 1 meter






Sequence of Donning of PPE

	Hand hygiene	Perform hand hygiene • Alcohol-based hand rub (ABHR) is recommended • Soap and water is used when hands are visibly soiled
	Knee high boot covers 	Sit on a clean chair, • Place boot cover on toes of foot and pull up
	Hand hygiene	Perform hand hygiene • Alcohol-based hand rub (ABHR) is recommended • Soap and water is used when hands are visibly soiled
	1st set of Inner gloves	Either regular length or extended length nitrile gloves . First set of gloves worn under gown cuffs • Inspect for tears

	<p>Fluid-resistant or impermeable</p>  <p>gown/coverall</p>	<p>Ensure gown fits over the yoke of the hood • Gown is securely fastened at the neck, waist, and back using all Velcro/ties provided • Trained observer may assist with ties, if required</p>
	<p>N95 respirator</p> 	<ol style="list-style-type: none"> 1. Place over nose, mouth and chin 2. Flexible nose piece is fitted over bridge of nose 3. Secure on head with elastics: bottom elastic first at the base of the neck, then top elastic at the crown of your head 4. Perform a seal-check
	<p>Goggles</p>	

Sequence of Doffing of PPE:

	<p>Disinfect outer gloves</p> 	<p>Use a hospital grade disinfectant wipe to clean outer gloves prior to opening the door to the patient room</p>
	<p>Hand hygiene</p>	
	<p>Remove shoe cover</p>	<ul style="list-style-type: none"> • Sit on a clean chair (if available) • Remove boot covers one at a time by rolling down and outward, lifting your heel first and then your toes • Step out of the boot covers one at a time
	<p>Hand hygiene</p>	
	<p>Remove outer gloves</p>	<p>Minimize direct contact with inner gloves</p> <ul style="list-style-type: none"> •Grasp outside edge of glove near the wrist and peel away, rolling the glove inside out •Slide 1 or 2 fingers under the wrist of the remaining glove and peel away •Discard immediately into waste
	<p>Disinfect inner glove</p>	<p>Use a hospital grade disinfectant wipe to clean inner glove</p>
	<p>Remove goggle</p>	
	<p>Remove cap of coverall</p>	
	<p>Hand hygiene</p>	
	<p>Remove gown/coverall</p>	<p>Remove gown/coverall in a manner that prevents contamination of clothing and skin</p>

		<ul style="list-style-type: none"> • Trained observer will carefully unfasten top tie first, then outside waist tie, then inside waist tie • Slide 2 fingers under cuff of gown and pull hand into gown. Using the hand that is covered, grab the opposite sleeve of gown and pull away from body over hand. Continue folding the gown inward on to itself and rolling it away from you until it becomes small enough to discard • Place into waste receptacle
	<p>Perform Hand Hygiene</p>	
	<p>Remove inner gloves</p> 	<p>i). Grasp outside edge of glove near the wrist and peel away, rolling the glove inside out ii. Slide 1 or 2 fingers under the wrist of the remaining glove and peel away iii. Discard immediately into waste</p>
	<p>Perform Hand Hygiene</p> 	<p>Perform hand hygiene • Alcohol-based hand rub (ABHR) is recommended • Soap and water is used when hands are visibly soiled</p>
	<p>Put on a new pair of gloves</p>	<p>Perform hand hygiene • Alcohol-based hand rub (ABHR) is recommended • Soap and water is used when hands are visibly soiled</p>
	<p>Remove N95 Mask</p> 	<ul style="list-style-type: none"> • The front of the respirator is considered contaminated . • Lift the bottom elastic over your head first, then the top elastic up and over your head • Pull forward off the head bending forward to allow respirator to fall away from the face • Place respirator carefully into waste • Should removed outside room after using a new gloves. Before use of glove need to do hand hygiene.
	<p>Remove Gloves</p>	
	<p>Perform Hand Hygiene</p> 	<p>Perform hand hygiene • Alcohol-based hand rub (ABHR) is recommended • Soap and water is used when hands are visibly soiled</p>

Donning and Doffing area for PPE for high risk zone:

ENTRY → **Donning area** → **Ward** → **DoFFing Area** → **EXIT**

DISPOSAL OF COVID-19 WASTE :

Handling, treatment and disposal of COVID-19 waste at Healthcare Facilities, Quarantine Camps/ Quarantine-homes/ Home-care, Sample Collection Centres, Laboratories , SPCBs/PCCs, ULBs and CBWTFs is give below :

- General solid waste (household waste) generated from quarantine centers or camps should be handed over to waste collector identified by **Urban Local Bodies** or **as per the prevailing local method of disposing general solid waste.**
- Biomedical waste if any generated from quarantine centres/camps should be collected separately in **yellow coloured bags (suitable for biomedical waste collection) provided by ULBs.** These bags can be placed in separate and dedicated dust-bins of appropriate size.
- Persons operating Quarantine camps/centers should call the CBWTF operator to collect biomedical waste as and when it gets generated. **Contact details of CBWTFs would be available with Local Authorities**
- 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**
- **Hand over the yellow bags containing biomedical waste to authorized waste collection Deposit biomedical waste in yellow bags at designated deposition Centers established by ULBs.**
- Handover the biomedical waste to waste collector engaged by CBWTF operator at the doorstep
- Persons operating Quarantine camps/centres or Quarantine-homes/Home-care should report to ULBs in case of any difficulty in getting the services for disposal of solid waste or biomedical waste

Clarifications:

- Quarantine Camps / Quarantine-Home / Home-care 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/Central Governments
- Biomedical waste at Quarantine Camps / Home-care 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.
- Biomedical waste generated from Quarantine Camps / Quarantine-Home / Home-care 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 and these guidelines.
- General waste from Quarantine Camps / Quarantine-Home / Home-care shall be disposed as Solid waste as per provisions under SWM Rules, 2016

Isolation wards/ Laboratory /ICU/ Screening

- Keep separate colour coded bins/bags/containers in wards and maintain proper segregation of waste as per BMW Rules, 2016 as amended and CPCB guidelines for implementation of BMW Management Rules.
- As precaution double layered bags (using 2 bags) should be used for collection of waste from COVID-19 isolation wards so as to ensure adequate strength and no-leaks. Collect and store biomedical waste separately prior to handing over the same CBWTF. 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/ incinerator/Deep burial pit . Biomedical waste collected in such isolation wards can also be lifted directly from ward into CBWT collection van/incinerator/Deep burial pit .
- In addition to mandatory labelling, bags/containers used for collecting biomedical waste from COVID-19 wards, should be labelled as “COVID-19 Waste”. This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt. Maintain separate record of waste generated from COVID-19 isolation wards.
- Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label “COVID-19 Waste” to be pasted on these items also.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypochlorite solution daily.
- Report opening or operation of COVID-19 ward and COVID ICU ward to SPCBs and respective CBWTF located in the area and incinerate or deep buried.
- Depute dedicated sanitation workers separately for biomedical waste and general solid waste so that waste can be collected and transferred timely to temporary waste storage area.

ENVIRONMENTAL CLEANING :

CLEANING STAFF :

The risk when cleaning is not the same as the risk when face to face with a sick person who may be coughing or sneezing.

i) Cleaning staff should be informed to avoid touching their face, especially their mouth, nose, and eyes when cleaning.

ii. Cleaning staff should wear **impermeable disposable gloves or Industrial gloves, Gumboot and a surgical mask plus eye protection /Goggles .**

iii. Disposable gloves should remove immediately if damaged or soiled and wear a new pair of gloves.

iv. Cleaners should use alcohol-based hand rub before putting on PPE and hand wash with soap and water after removing PPE. Reusable goggles should decontaminate with 70% alcohol or 1% Bleaching Powder Solution (Chlorine solution) or 1% hypochlorite or D-125 or according to manufacturer instruction.

v. Gumboot should decontaminate by 70% alcohol before removing.

vi. If there is visible contamination with respiratory secretions or other body fluid, the cleaners should wear a full length disposable gown in addition to the surgical mask, eye protection and gloves .

vii. Don't use broom stick

viii. Dedicated mop should be used for each area.

FLOOR CLEANING OF ISOLATION WARD/ICU

Consumables Required:

1. Detergent and hot water

2. **1% Bleaching Powder Solution (Chlorine solution) or 1% hypochlorite solution or D-125 .**

3. Mop

4. Three buckets Trolley (one with plain water and one with detergent solution; one bucket for 1% Bleaching Powder Solution (Chlorine solution) or sodium hypochlorite solution (1%)

Method:

- Place mop into detergent solution, wipe area
- Squeeze into empty bucket/bucket with water.
- Place second mop into clean water and wipe area .
- Replace water every room or every half hour whichever comes first
- Pour water down toilet
- Start at top and furthest corner from door .

Frequencies of mopping:

1. Twice a day in screening/Triage area.

2. Thrice a day in ICU and isolation wards and Laboratories .

Cleaning of Administrative Block/ Office areas/ Spaces :

- Start cleaning from cleaner areas and proceed towards dirtier areas. All indoor areas such as entrance lobbies, corridors and staircases, , elevators, security guard booths, office rooms, meeting rooms, conference, should be mopped with a disinfectant with 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypochlorite or phenolic disinfectants.
- High contact surfaces such elevator buttons, handrails / handles and call buttons, escalator handrails, public counters, intercom systems, equipment like telephone, printers/scanners, and other **office machines should be cleaned twice daily by mopping with a linen/absorbable cloth soaked in 1% Bleaching Powder Solution (Chlorine solution) or 1% sodium hypochlorite.**
- Frequently touched areas like table tops, chair handles, pens, diary files, keyboards, mouse, mouse pad, tea/coffee dispensing machines etc. should specially be cleaned.
- For metallic surfaces like door handles, security locks, keys etc. 70% alcohol can be used to wipe down surfaces where the use of bleach is not suitable
- Hand sanitizing stations should be installed in office premises (especially at the entry).
- In a meeting/conference/office room, if someone is coughing, without following respiratory etiquettes or mask, the areas around his/her seat should be vacated and cleaned with 1% Bleaching Powder Solution

(Chlorine solution) or 1% sodium hypochlorite after meeting . Carefully clean the equipment used in cleaning at the end of the cleaning process.

- Remove used PPE, (Mask, Disposable Apron, Gloves, Disposable Foot wear) discard in a disposable bag and wash hands with soap and water.

Care of Mop:

Clean with hot water and detergent solution, disinfect it with sodium hypochlorite and keep for drying up side down.

CEILING AND WALL:

1. Damp dusting with a long handled tool for the walls and ceiling done with very little moisture, just enough to collect the dust.
2. Damp dusting should be done in straight lines that overlap one another.
3. Change the mop head/cover when soiled.

Note: Should be done once a week or after examining a suspect case

CLEANING OF TOILET :

Areas	Agents/Toilet cleaner	Procedure
Toilet pot/Commode	1% Bleaching Powder Solution (Chlorine solution) or Sodium hypochlorite 1% detergent Soap powder/ long handle angular brush	<ul style="list-style-type: none"> • Inside of toilet pot/commode: • Scrub with the recommended agents and the long handle angular brush. • Outside: clean with recommended agents; use a scrubber.
Lid/commode	Nylon scrubber and soap powder/detergent 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Wet and scrub with soap powder and the nylon scrubber inside and outside. • Wipe with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite solution
Toilet floor	Soap Water/detergent and scrubbing brush/ nylon broom 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite	<ul style="list-style-type: none"> ▪ Scrub floor with soap powder and scrubbing brush wash with water. ▪ Use 1% Bleaching Powder Solution (Chlorine solution) or sodium hypochlorite 1 % dilution
Sink	Soap Water/detergent and nylon scrubber 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite	<ul style="list-style-type: none"> • Scrub with Nylon Scrubber • Wipe with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite solution

Showers area/ Taps and fittings	Warm water detergent powder nylon scrubber 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite /70 alcohol	<ul style="list-style-type: none"> ▪ Thoroughly scrub the floors /Tiles with warm water and detergent ▪ Wipe over taps and fittings with a damp cloth and detergent ▪ Care should be taken to clean the underside of taps and fittings ▪ Wipe with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite solution
Soap Dispensers	Detergent and water	<ul style="list-style-type: none"> ▪ Should be cleaned daily with detergent and water and dried.

LINEN AND LAUNDRY MANAGEMENT :

- All linen in room (regardless of whether used or not) should be sealed before leaving the room, & sent as foul or infected linen

Different types of linen needed in the hospital include:

- General Purpose Linen: This includes linen which is not used for patient care like curtains, drapes, table clothes and similar items commonly used in all parts of the hospital •
- Patient Linen: This consists of patient clothing such as pajamas, shirts, gowns, coats etc. worn by patients.
- Bed Linen: This consists of bed clothing such as bed sheets, pillow covers, blankets used by the patient.

GENERAL INSTRUCTIONS FOR LAUNDRY MANAGEMENT LINEN:

Place used linen in appropriate Yellow bags at the point of generation

- Contain linen soiled with body substances or other fluids within suitable impermeable bags and close the bags securely for transportation to avoid any spills or drips of blood, body fluids, secretions or excretions
- Soaked the soiled/used linen in 0.5% bleaching powder solution or 0.5% Hypochlorite solution for 20 minutes .
- Wash used linen (sheets, cotton blankets) in hot water (70°C to 80°C) and detergent, rinse and dry preferably in a dryer or in the sun
- Autoclave linen before being supplied to the Isolation ward/ ICU.
- Wash woollen blankets in warm water and dry in the sun, in dryers at cool temperatures or dry-clean.

BEDDING

- Mattresses and pillows with plastic covers should be wiped over with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium hypochlorite solution . Mattresses without plastic covers should be steam cleaned if they have been contaminated with body fluids.
- Wash pillows either by using the standard laundering procedure described above, or dry clean if contaminated with body fluids or sunlight the pillows.

CLEANING OF KITCHEN ENVIRONMENT :

- Separate mops, buckets and cleaning chemical supplies should be used for the kitchen
- All floors in the kitchen complex should be cleaned at least twice a day using soap and water.
- Cleaning should begin with the food storage room and proceed to preparation and cooking area.
- The waste storage area and the cleaning equipment storage area should be cleaned last (clean to dirty sequence should be followed)
- Food storage pallets should be cleaned by wiping with soap and water at least weekly
- Equipment such as tables and food preparation and holding counters should be wiped with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium hypochlorite at least twice a day or before and after food preparation, whichever is suitable.
- The solution should remain wet on the surfaces for at least one minute
- ***Patient should be provided food in disposable plates . and it be discarded in YELLOW bin and send it for incineration***

DISPOSAL OF DEAD BODY:

PROCEDURE:

- The health worker attending to the dead body should perform hand hygiene, ensure proper use of full PPE (water resistant apron, goggles, N95 mask, gloves).
- All tubes, drains and catheters on the dead body should be removed and dispensed in yellow bag Plug Oral, nasal orifices of the dead body to prevent leakage of body fluids.
- If the family of the patient wishes to view the body at the time of removal from the isolation room or area, they may be allowed to do so with the application of Standard Precautions.
- Place the dead body in leak-proof plastic body bag. The exterior of the body bag can be decontaminated with 1% Bleaching Powder Solution (Chlorine solution) or 1% hypochlorite solution or 70% alcohol. The body bag can be wrapped with a mortuary sheet or sheet provided by the family members.
- All used/ soiled linen should be handled with standard precautions, put in biohazard bag and the outer surface of the bag disinfected with hypochlorite solution.
- Used equipment should be autoclaved or decontaminated with 1% Bleaching Powder Solution (Chlorine solution) or 1% hypochlorite .
- The health staff who handled the body will remove personal protective equipment and will perform hand hygiene.

ENVIRONMENTAL CLEANING AND DISINFECTION :

All surfaces of the isolation area (floors, bed, railings, side tables, IV stand, etc.) should be wiped with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite solution; allow a contact time of 30 minutes, and then allowed to air dry.

HANDLING OF DEAD BODY IN MORTUARY :

- Mortuary staff handling COVID dead body should observe standard precautions.
- Dead bodies should be stored in cold chambers maintained at approximately 4°C.
- The mortuary must be kept clean. Environmental surfaces, instruments and transport trolleys should be properly disinfected with 1% Bleaching Powder Solution (Chlorine solution) or 1% Hypochlorite solution.
- After removing the body, the chamber door, handles and floor should be cleaned with 1% Bleaching Powder Solution (Chlorine solution) or sodium hypochlorite 1% solution.
- Embalming of dead body should not be allowed

TRANSPORTATION:

- The body, secured in a body bag, exterior of which is decontaminated poses no additional risk to the staff transporting the dead body.
- The personnel handling the body may follow standard precautions (surgical mask, gloves).
- The vehicle, after the transfer of the body to cremation/ burial staff, will be decontaminated with 1% Bleaching Powder Solution (Chlorine solution) or 1% Sodium Hypochlorite.

AT THE CREMATORIUM/ BURIAL GROUND:

- The Crematorium/ burial Ground staff should practice standard precautions of hand hygiene, use of masks and gloves.
- Viewing of the dead body by unzipping the face end of the body bag (by the staff using standard precautions) may be allowed, for the relatives to see the body for one last time.
- For the purpose of last rites, cremation should be preferred for complete elimination of chances of infection in either electric or gas crematorium in situ in zipped body bag. However keeping in mind the religious views of the family, if the burial of the body is requested, then it should be assured that the body is buried in a thick, air tight coffin and placed at normal depth of burial (8 feet). It is recommended that the area above and adjacent to the grave should be cemented immediately as an additional precautionary measure and the space should be marked and required precautions should be taken to avoid scavenging by animals.
- The funeral/ burial staff and family members should perform hand hygiene after cremation/ burial.
- The ash does not pose any risk and can be collected to perform the last rites.
- As a precautionary measure large gathering at the crematorium/ burial ground should be avoided to maintain a healthy distancing

Annexure I

Preparation of Chlorine solution:

1. Preparation of Chlorine solution using Hypochlorite Solution :

Concentration of Commercially available Hypochlorite solution	Required Chlorine Concentration	To prepare 1000 ml	
		Solution in ml	Add water in ml
5%	2%	400	600
	1%	200	800
	0.50%	100	900
10%	0.50%	50	950
	1%	100	900
	2%	200	800

2. Preparation Chlorine Solution using Bleaching Powder Solution :

Concentration of Stable bleaching powder	Volume of water	Desired concentration	Bleaching powder in grams per litre
20%	1 ltr	0.50%	25
		1%	50
		2%	100
		5%	250
		10%	500
25%	1 ltr	0.50%	20
		1%	40
		2%	80
		5%	200
		10%	400
30%	1 ltr	0.5%	17
		1%	33
		2%	67
		5%	167
		10%	333

Reference :

1. Standard Operating Procedure for transporting a suspect/confirm case of Covid 19, dtd. issued by Ministry of Health and Family Welfare Directorate General of Health Services (Emergency Medical Relief).
2. Standard Operating Procedure for Management of Covid 19 Patient, version 1 dtd. 01/04/2020, issued by Gauhati Medical College and Hospital.
3. Guideline for Handling , Treatment and Disposal of Waste Generated During Treatment / Diagnosis/ Quarantine of Covid 19 issued by Ministry of Health and Family Welfare Directorate General of Health Services
4. Guideline on rational use of personal protective equipment (PPE) issued by Ministry of Health and Family Welfare Directorate General of Health Services (Emergency Medical Relief).
5. COVID-19 Outbreak - Guideline for setting up isolation facility/ward issued by National Centre for Disease Control under Ministry of Health and Family Welfare Directorate General of Health Services .