

# HOSPITAL INFECTION PREVENTION AND CONTROL GUIDELINES FOR COVID-19



## **INTRODUCTION**

A pneumonia of unknown cause detected in Wuhan, China was first reported to the WHO Country Office in China on 31 December 2019. It was caused by a novel Coronavirus (2019-nCoV). The disease has since spread all over the world. On 11 February 2020, WHO announced a name for the new coronavirus disease: COVID-19 and **WHO** declared COVID-19 as a pandemic on 11<sup>th</sup> March 2020. There is a need to build a comprehensive strategy to prevent infections, save lives and minimize impact.

Keeping in view the capability of the virus to spread in health care facility proper guidelines for infection control measures need to be prepared.

## **STANDARD PRECAUTIONS**

According to WHO there are two main routes of transmission of the COVID-19 virus: respiratory and contact. Standard precautions along with transmission based precautions must be followed at all times in hospital setting to prevent spread of infection. Standard precautions are basic infection control precautions which must be applied to all patients at all times, regardless of diagnosis or their infectious state.

Components of standard precautions include -

- ▶ **HAND HYGIENE** – Perform hand hygiene frequently with an alcohol-based hand rub if your hands are not visibly dirty or with soap and water if hands are dirty.
- ▶ **PERSONAL PROTECTIVE EQUIPMENT (PPE)** - HCWs should wear PPE (Gloves, mask, gown, eye protection, or face shield) when touching blood, body fluids, secretions, excretions, and contaminated items.
- ▶ **DISINFECTION** - Cleaning and disinfection of environmental surfaces, beds, bed rails, and bedside equipment should be done properly.
- ▶ **SPILL MANAGEMENT** – Any spillage of blood or body fluids should be cleaned promptly to prevent contamination.
- ▶ **BIOMEDICAL WASTE MANAGEMENT** - Proper segregation, transport, storage and disposal of hospital waste should be done to avoid the transfer of microorganisms to other patients or the environment.
- ▶ **PREVENTION OF NEEDLE STICK INJURIES** – Extreme precaution should be taken to prevent injuries with sharp objects, such as needles and scalpels.
- ▶ **RESPIRATORY HYGIENE / COUGH ETIQUETTE** -
  - Patients should cover their nose and mouth with bent elbow or tissue when coughing or sneezing.
  - Head should be turned away from others while coughing.
  - Tissues should be disposed into appropriate waste bins after use immediately.
  - Touching of mouth and nose should be avoided

- Hand hygiene should be done after contact with respiratory secretions.
- Surgical mask should be placed on the coughing patient in common areas.
- Spatially separating patients (> 3 feet) with respiratory infections from other patients when feasible.

## **TRANSMISSION BASED PRECAUTIONS –**

Additional transmission based precautions apart from Standard precaution should be followed for prevention and control of infection due to 2019-n CoV. As the infection is transmitted through droplets and contact, droplet and contact precautions should also be followed. These measures protect health care workers and other patients from cross infections.

## **DROPLET PRECAUTIONS –**

Basic components of Standard precautions should be followed.

### **Patient placement**

- Patient should be placed in single room.
- When single rooms are not available patients should be placed in same room.
- Patients should be physically separated at least 3 feet apart.
- Patients should wear a triple layer surgical mask at all times.
- Curtains should be drawn between two patients to minimize chances of direct contact.
- Doors should be kept closed.
- All suspect cases detected in the isolation ward (till a diagnosis is made), will be hospitalized and kept in isolation till such time they are tested negative.
- Persons testing positive for COVID-19 will remain to be hospitalized till such time 2 of their samples are tested negative as per MoHFW's discharge policy.

### **Respiratory hygiene / Cough etiquette**

- Patients should cover their nose and mouth with with flexed elbow or tissue when coughing or sneezing.
- Head should be turned away from others while coughing.
- Tissues should be disposed into appropriate waste bins after use.
- Hand hygiene should be done after contact with respiratory secretions.
- Touching of mouth and nose should be avoided
- Surgical mask should be placed on the coughing patient in common areas.
- Spatially separating patients (> 3 feet) with respiratory infections from other patients when feasible.

### **PPE**

#### **▶ MASKS –**

- Individuals with respiratory symptoms should:
  - ✓ Wear a medical mask while waiting in triage or other areas and during transportation within the facility;

- ✓ Wear a medical mask when staying in areas dedicated to suspected or confirmed cases;
- ✓ Not wear a medical mask when isolated in single rooms, but they should cover their mouth and nose when coughing or sneezing with disposable paper tissues. Tissues must be disposed of appropriately, and hand hygiene should be performed immediately afterwards.
- Health care workers should:
  - ✓ Wear a medical mask when entering a room where patients with suspected or confirmed COVID-19 are admitted;
  - ✓ Use a particulate respirator at least as protective as a US National Institute for Occupational Safety and Health-certified N95, European Union standard FFP2, or equivalent, when performing aerosol-generating procedures such as
    - Tracheal intubation
    - Non-invasive ventilation
    - Tracheotomy
    - Cardiopulmonary resuscitation
    - Manual ventilation before intubation
    - Bronchoscopy.
- ▶ HCWs should wear protective eyewear if there is risk of splashes to the mucosa.
- ▶ PPE should be changed and hand hygiene performed between contact with patients in the same room.
- ▶ Mask management –
 

If medical masks are worn, appropriate use and disposal are essential to ensure they are effective and to avoid any increase in transmission. The following information on the correct use of medical masks is derived from practices in health care settings -

  - ✓ Place the mask carefully, ensuring it covers the mouth and nose, and tie it securely to minimize any gaps between the face and the mask.
  - ✓ Avoid touching the mask while wearing it.
  - ✓ Remove the mask using the appropriate technique: do not touch the front of the mask but untie it from behind.
  - ✓ After removal or whenever a used mask is inadvertently touched, clean hands using an alcohol-based hand rub or soap and water if hands are visibly dirty.
  - ✓ Replace masks as soon as they become damp with a new clean, dry mask. Do not re-use single-use masks.
  - ✓ Discard single-use masks after each use and dispose of them immediately upon removal.

**RATIONALE USE OF PERSONAL PROTECTIVE EQUIPMENT -**

<b>Setting</b>	<b>Setting Target personnel or patients</b>	<b>Activity</b>	<b>PPE or procedure</b>
<b>Health care facilities</b>			
<b>Inpatient facilities</b>			
Patient room	Health care workers	Providing direct care to COVID19 patients)	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Gloves</li> <li>- Eye protection (goggles or face shield)</li> </ul>
		Aerosol-generating procedures performed on COVID-19 patients	<ul style="list-style-type: none"> <li>- Respirator N95 or FFP2 standard, or equivalent.</li> <li>- Gown</li> <li>- Gloves</li> <li>- Eye protection</li> <li>- Apron</li> </ul>
	Cleaners	Entering the room of COVID-19 patients	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Heavy duty gloves</li> <li>- Eye protection (if risk of splash from organic material or chemicals)</li> <li>- Boots or closed work shoes</li> </ul>
	Visitors	Entering the room of a COVID19 patient	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Gloves</li> </ul>
Other areas of patient transit	All staff, including health care workers.	Any activity that does not involve contact with COVID-19 patients	No PPE required
Triage	Health care workers	Preliminary screening not involving direct contact. (This category includes the use of no-touch thermometers, thermal imaging cameras, and limited observation and questioning, all while maintaining a spatial distance of at least 1 m.)	<ul style="list-style-type: none"> <li>- Maintain spatial distance of at least 1 metre.</li> <li>- No PPE required</li> </ul>

<b>Setting</b>	<b>Setting Target personnel or patients</b>	<b>Activity</b>	<b>PPE or procedure</b>
	Patients with respiratory symptoms	Any	<ul style="list-style-type: none"> <li>- Maintain spatial distance of at least 1 metre.</li> <li>- Provide medical mask if tolerated by patient.</li> </ul>
	Patients without respiratory symptoms	Any	No PPE required
Laboratory	Lab technician	Manipulation of respiratory samples	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Gloves</li> <li>- Eye protection (if risk of splash)</li> </ul>
Administrative areas	All staff, including health care workers.	Administrative tasks that do not involve contact with COVID-19 patients	No PPE required
<b>Outpatient facilities</b>			
Consultation room	Health care workers	Physical examination of patient with respiratory symptoms	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Gloves</li> <li>- Eye protection</li> </ul>
	Healthcare personnel	Physical examination of patients without respiratory symptoms.	PPE according to standard precautions and risk assessment
	Patients with respiratory symptoms.	Any	Provide medical mask.
	Patients without respiratory symptoms.	Any	No PPE required
	Cleaners	After and between consultations with patients with respiratory symptoms.	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Heavy duty gloves</li> <li>- Eye protection (if risk of splash from organic material or chemicals).</li> <li>- Boots or closed work shoes</li> </ul>

<b>Setting</b>	<b>Setting Target personnel or patients</b>	<b>Activity</b>	<b>PPE or procedure</b>
Waiting room	Patients with respiratory symptoms.	Any	<ul style="list-style-type: none"> <li>- Provide medical mask.</li> <li>- Immediately move the patient to an isolation room or separate area away from mothers; if this is not feasible,</li> <li>- Ensure spatial distance of at least 1 m from other patients.</li> </ul>
	Patients without respiratory symptoms.	Any	No PPE required
Administrative areas	All staff, including health care workers.	Administrative tasks	No PPE required
Triage	Health care workers	Preliminary screening not involving direct contact.	<ul style="list-style-type: none"> <li>- Maintain spatial distance of at least 1 metre.</li> <li>- No PPE required</li> </ul>
	Patients with respiratory symptoms	Any	<ul style="list-style-type: none"> <li>- Maintain spatial distance of at least 1 metre.</li> <li>- Provide medical mask if tolerated by patient.</li> </ul>
	Patients without respiratory symptoms	Any	No PPE required
<b>Transport team</b>			
	Healthcare personnel	Transporting suspected COVID-19 patients to the referral healthcare facility.	
	Driver	Involved only in driving the patient with suspected COVID-19 disease and the driver's compartment is separated from the COVID-19 patient.	<ul style="list-style-type: none"> <li>- Maintain spatial distance of at least 1 metre.</li> <li>- No PPE required</li> </ul>
		Assisting with loading or unloading patient	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gowns</li> <li>- Gloves</li> </ul>

		with suspected COVID-19 disease.	- Eye protection
		No direct contact with patient with suspected COVID-19, but no separation between drivers' and patients' compartments.	Medical mask
	Patient with suspected COVID-19 disease.	Transport to the referral healthcare facility.	Medical mask if tolerated
	Cleaners	Cleaning after and between transport of patients with suspected COVID-19 disease to the referral healthcare facility.	<ul style="list-style-type: none"> <li>- Medical mask</li> <li>- Gown</li> <li>- Heavy duty gloves</li> <li>- Eye protection (if risk of splash from organic material or chemicals).</li> <li>- Boots or closed work shoes</li> </ul>



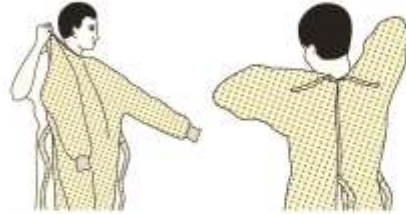
## Sequence of donning and doffing PPE

### SEQUENCE FOR PUTTING ON PERSONAL PROTECTIVE EQUIPMENT (PPE)

The type of PPE used will vary based on the level of precautions required, such as standard and contact, droplet or airborne infection isolation precautions. The procedure for putting on and removing PPE should be tailored to the specific type of PPE.

#### 1. GOWN

- Fully cover torso from neck to knees, arms to end of wrists, and wrap around the back
- Fasten in back of neck and waist



#### 2. MASK OR RESPIRATOR

- Secure ties or elastic bands at middle of head and neck
- Fit flexible band to nose bridge
- Fit snug to face and below chin
- Fit-check respirator



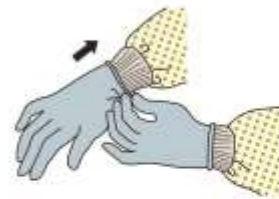
#### 3. GOGGLES OR FACE SHIELD

- Place over face and eyes and adjust to fit



#### 4. GLOVES

- Extend to cover wrist of isolation gown



### USE SAFE WORK PRACTICES TO PROTECT YOURSELF AND LIMIT THE SPREAD OF CONTAMINATION

- Keep hands away from face
- Limit surfaces touched
- Change gloves when torn or heavily contaminated
- Perform hand hygiene



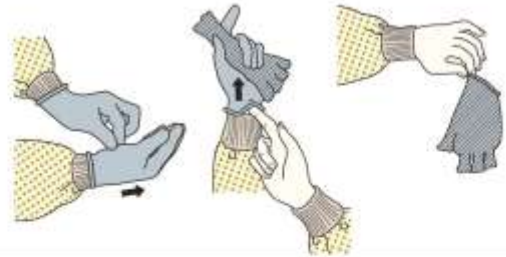
# HOW TO SAFELY REMOVE PERSONAL PROTECTIVE EQUIPMENT (PPE)

## EXAMPLE 1

There are a variety of ways to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. Here is one example. **Remove all PPE before exiting the patient room** except a respirator, if worn. Remove the respirator **after** leaving the patient room and closing the door. Remove PPE in the following sequence:

### 1. GLOVES

- Outside of gloves are contaminated!
- If your hands get contaminated during glove removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Using a gloved hand, grasp the palm area of the other gloved hand and peel off first glove
- Hold removed glove in gloved hand
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard gloves in a waste container



### 2. GOGGLES OR FACE SHIELD

- Outside of goggles or face shield are contaminated!
- If your hands get contaminated during goggle or face shield removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Remove goggles or face shield from the back by lifting head band or ear pieces
- If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container



### 3. GOWN

- Gown front and sleeves are contaminated!
- If your hands get contaminated during gown removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Unfasten gown ties, taking care that sleeves don't contact your body when reaching for ties
- Pull gown away from neck and shoulders, touching inside of gown only
- Turn gown inside out
- Fold or roll into a bundle and discard in a waste container

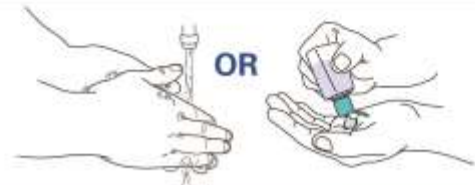


### 4. MASK OR RESPIRATOR

- Front of mask/respirator is contaminated — DO NOT TOUCH!
- If your hands get contaminated during mask/respirator removal, immediately wash your hands or use an alcohol-based hand sanitizer
- Grasp bottom ties or elastics of the mask/respirator, then the ones at the top, and remove without touching the front
- Discard in a waste container



### 5. WASH HANDS OR USE AN ALCOHOL-BASED HAND SANITIZER IMMEDIATELY AFTER REMOVING ALL PPE



**PERFORM HAND HYGIENE BETWEEN STEPS IF HANDS BECOME CONTAMINATED AND IMMEDIATELY AFTER REMOVING ALL PPE**



### **Patient transport**

- Patient should wear mask during transport.
- Respiratory etiquette/ Cough hygiene should be followed.

### **Patient-care equipment and instruments/devices**

- Dedicated or disposable patient care equipment should be used as far as possible.
- When reusable equipment's are used they should be cleaned and disinfected before use on another patient according to manufacturer's instruction.

### **CONTACT PRECAUTIONS –**

Basic components of Standard precautions should be followed.

### **Patient placement**

- Patient should be placed in single room.
- When single rooms are not available patients should be placed in same room.
- Patients should be physically separated at least 3 feet apart.
- Curtains should be drawn between two patients to minimize chances of direct contact.
- Patient notes or bedside charts should be kept outside the room.
- Doors should be kept closed.
- All suspect cases detected in the isolation ward (till a diagnosis is made), will be hospitalized and kept in isolation till such time they are tested negative.
- Persons testing positive for COVID-19 will remain to be hospitalized till such time 2 of their samples are tested negative as per MoHFW's discharge policy.

### **PPE**

- Wear gloves and gowns when coming in contact with patient or patient's surroundings.
- PPE should be changed and hand hygiene performed between contacts with patients in the same room.
- Hand hygiene should be performed before donning and after removal of PPE.

### **Patient transport**

- Infected area of the patient's body should be covered properly before transportation.
- Contaminated PPE should be removed and disposed and hand hygiene performed prior to transporting patients on Contact Precautions
- Clean PPE should be donned to handle the patient at the transport destination.

### **Patient-care equipment and instruments/devices**

- Dedicated or disposable patient care equipment should be used as far as possible.
- When reusable equipment's are used they should be cleaned and disinfected before use on another patient.

## **ENVIRONMENTAL CLEANING IN HEALTH CARE FACILITIES –**

Environmental cleaning is part of standard precautions.

### **Cleaning agents and disinfectants**

1. 1% Sodium Hypochlorite can be used as a disinfectant for cleaning and disinfection
2. The solution should be prepared fresh.
3. Leaving the solution for a contact time of at least 10 minutes is recommended.
4. Alcohol (e.g. isopropyl 70% or ethyl alcohol 70%) can be used to wipe down surfaces where the use of bleach is not suitable, e.g. metals.

### **Personal Protective Equipment (PPE) to wear while carrying out cleaning and disinfection works**

1. Wear heavy duty/disposable gloves, disposable long-sleeved gowns, eye goggles or a face shield, and a medical mask (please see the PPE document for details)
2. Avoid touching the nose and mouth (goggles may help as they will prevent hands from touching eyes)
3. Disposable gloves should be removed and discarded if they become soiled or damaged, and a new pair worn
4. All other disposable PPE should be removed and discarded after cleaning activities are completed. Eye goggles, if used, should be disinfected after each use, according to the manufacturer's instructions.
5. Hands should be washed with soap and water/alcohol-based hand rub immediately after each piece of PPE is removed, following completion of cleaning.

### **Cleaning guidelines**

1. Where possible, seal off areas where the confirmed case has visited, before carrying out cleaning and disinfection of the contaminated environmental surfaces. This is to prevent unsuspecting persons from being exposed to those surfaces.
2. When cleaning areas where a confirmed case has been, cleaning staff should be attired in suitable PPE. Disposable gloves should be removed and discarded if they become soiled or damaged, and a new pair worn. All other disposable PPE should be removed and discarded, after cleaning activities are completed. Goggles, if used, should be disinfected after each use, according to manufacturer's instructions. Hands should be washed with soap and water immediately after the PPE is removed.
3. Mop floor with routinely available disinfectant.
4. Wipe all frequently touched areas (e.g. lift buttons, hand rails, doorknobs, arm rests, tables, air/ light controls, keyboards, switches, etc.) and toilet surfaces with chemical disinfectants and allow to air dry. 1% sodium hypochlorite solution can be used. Alcohol can be used for surfaces, where the use of bleach is not suitable.
5. Clean toilets, including the toilet bowl and accessible surfaces in the toilet with disinfectant or 1% sodium hypochlorite solution.
6. Wipe down all accessible surfaces of walls as well as blinds with disinfectant or bleach solution.

7. Remove curtains/ fabrics/ quilts for washing, preferably using the hot water cycle. For hot-water laundry cycles, wash with detergent or disinfectant in water at 70°C for at least 25 minutes.
8. Discard cleaning items made of cloth and absorbent materials, e.g. mop head and wiping cloths, into biohazard bags after cleaning and disinfecting each area. Wear a new pair of gloves and fasten the double-bagged biohazard bag with a cable tie.
9. Disinfect buckets by soaking in disinfectant or bleach solution, or rinse in hot water before filling.
10. Disinfectant or 1% sodium hypochlorite solution should be applied to surfaces using a damp cloth. They should not be applied to surfaces using a spray pack, as coverage is uncertain and spraying may promote the production of aerosols. The creation of aerosols caused by splashing liquid during cleaning should be avoided. A steady sweeping motion should be used when cleaning either floors or horizontal surfaces, to prevent the creation of aerosols or splashing. Cleaning methods that might aerosolize infectious material, such as the use of compressed air, must not be used.
11. Biohazard bags should be properly disposed-off, upon completion of the disinfection work.

#### **Frequency of cleaning of surfaces:**

1. **High touch surfaces:** Disinfection of high touch surfaces like (doorknobs, telephone, call bells, bedrails, stair rails, light switches, wall areas around the toilet) should be done every 3-4 hours.
2. **Low-touch surfaces:** For Low-touch surfaces (walls, mirrors, etc.) mopping should be done at least once daily.

#### **Precautions to take after completing the clean-up and disinfection**

1. Staff should wash their hands with soap and water immediately after removing the PPE, and when cleaning and disinfection work is completed.
2. Discard all used PPE in a double-bagged biohazard bag, which should then be securely sealed and labelled.
3. The staff should be aware of the symptoms, and should report to their occupational health service if they develop symptoms.

#### **SPILL MANAGEMENT –**

- Wear non-sterile gloves.
- For large spills, cover with absorbent paper/ rag piece
- If any broken glass and sharps, using a pair of forceps and gloves, carefully retrieve.
- Use a large amount of folded absorbent paper to collect small glass splinters.
- Place the broken items into the puncture proof sharps container.
- Cover the spill with sodium hypochlorite (1%) for 10–20 minutes contact time.
- Clean up spill and discard into infectious waste bin, and mop area with soap and hot water.
- Clean the mop and mop area with 1% sodium hypochlorite.
- Wash mop with detergent and hot water and allow it to dry.

## **BIOMEDICAL WASTE MANAGEMENT -**

Bio-medical waste management for BMW from patients in novel Corona Virus Ward/OPD will be done as per BMWM (Principal) rules 2016 and BMWM (Amendment) rules 2018, 2019, National IPC guidelines 2020, CDC and WHO IPC update Jan 2020.

Only pretreatment and segregation will be done in the hospital and the final disposal will be done by common biomedical waste treatment and disposal facility (CBMWTF).

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**

(a) Human Anatomical Waste: Human tissues, biopsy: Yellow coloured non-chlorinated plastic bags.

(b) Animal anatomical waste: Not applicable in nCorona virus ward/OPD (only in nCoV research labs)

(c) 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.

(d) 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.

(e) 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.

(f) 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.

(g) Discarded items: Linen, Mattresses, beddings contaminated with blood or body fluid should be treated with 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 nonchlorinated yellow bag for incineration.

(h) 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.

**Translucent (White) Category**

Waste sharps including Metals:

Needles, scalpels, blades or any other contaminated sharp object that may cause puncture and cuts are to be placed in sharp blasters. Collect and send for final disposal when 3/4 full. These are sent for final disposal to CBMWTF.

**Blue category:**

Glass and metallic implants

Broken or discarded and contaminated glass, have to be disinfected (1-2% sodium hypochlorite for 30 minutes at least) 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. The uninfected glass like medicine bottles or ampoules are noninfected and are put in puncture proof and leak proof boxes or containers with blue coloured marking. The metallic implants are pretreated in the same manner and are to be packed in separate puncture proof and leak proof boxes or containers with blue coloured marking.

References- <https://www.cdc.gov/coronavirus/2019-ncov/index.html>  
[www.who.int/coronaviruse/20200126-ncov-ipc-during-health-care](http://www.who.int/coronaviruse/20200126-ncov-ipc-during-health-care)  
[www.ncdc.gov.in](http://www.ncdc.gov.in)