

# STANDARD OPERATING PROCEDURES FOR HOSPITAL INFECTION CONTROL DURING COVID

HOSPITAL INFECTION CONTROL DIVISION  
DR BABA SAHEB AMBEDKAR HOSPITAL AND MEDICAL COLLEGE,  
GNCT DELHI



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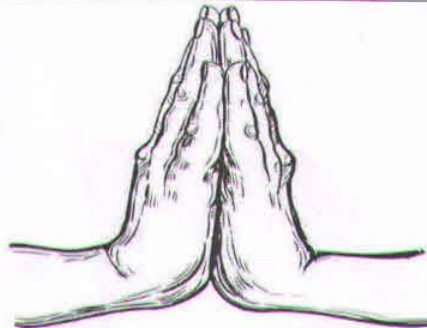
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## Manual of Operation

Name of Service	SOP- Hospital Infection Control During Covid 19
Name of Policy Policy No.	SOP_HIC_Covid
Purpose	To provide guideline regarding infection control practices in the hospital during Covid 19 Infection.
Scope	Hospital-wide
Responsibility	All staff working in direct patient care areas involving Covid Patients
Prepared By :	<b>Infection Control Officer</b> Name: Dr Shalini Dewan Duggal Signature:
Approved By :	<b>Secretary, HICC</b> Name: Dr Renu Gur Signature:
Issued By:	<b>Medical Director, BSAH</b> Name: Dr M. M. Kohli Signature: 18-4-2020



# Namaste



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## MEET THE HIC TEAM

DR RENU GUR  
Secretary HICC



DR S D SHARMA  
Quality Officer In charge



DR SHALINI DUGGAL  
Infection Control Officer



DR M M KOHLI  
Chairperson, HICC  
Medical Director



DR RAJENDER  
Quality Nodal Officer



MANJU RANI  
BMW Nursing Officer



PARVESH  
ICN



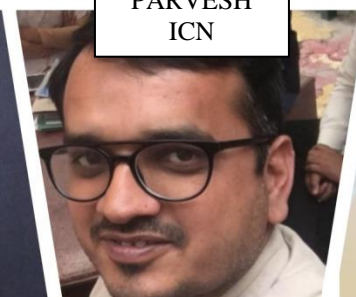
KUSUM RANA  
BMW Sister In charge



MANJU  
ICN



JAIVEER GODARA  
ICN



MUKHRAJ  
ICN







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**Dr. BABA SAHEB AMBEDKAR HOSPITAL**  
**GOVT. OF NCT DELHI**  
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F. No.27 (01)/2017/BSAH/HICC/

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OFFICE ORDER 345

Dated

16/4/2020

In view of prevailing/emerging situation regarding Covid-19, a training task force team has been constituted under the chairmanship of M.D. for the Infection Prevention & Control and Specimen Collection in Dr BSA Hospital. The team is as below:

Name	Designation	Training Topics
Dr Renu Gur	Consultant & Head Deptt Of Microbiology	National Guidelines for Corona virus Testing & Specimen Collection
Dr Shalini Dewan Duggal	Specialist Microbiology	National Guidelines for Corona virus Testing & Specimen Collection
Ms. Parvesh	Infection Control Nursing Officer	Respiratory Hygiene / Cough Etiquettes
Mr. Mukhraj	Infection Control Nursing Officer	Hand Hygiene: Steps & Moments
Mr. Jaiveer	Infection Control Nursing Officer	Cleaning & Disinfection of Environmental Surfaces
Ms. Manju	Infection Control Nursing Officer	Standard Precautions: Donning & Doffing Of PPE
Ms. Kusum Rana	BMW Senior Nursing Officer	BMW Management Guidelines
Ms. Manju Rani	BMW Nursing Officer	Spill Management

The Team shall conduct training every Tuesday at 2pm for all medical, nursing, paramedical and allied staff, and as and when directed, in Conference Hall of Dr BSA Hospital. All HODs/Unit Heads/ In charges are requested to ensure that all staff attend this training program.

The Training videos prepared by the team can also be accessed at the hospital website under the heading 'Education and Training'.

[http://health.delhigovt.nic.in/wps/wcm/connect/doit\\_dbsah/DBSAH/Home/Education+and+Trainin+g/Training+Activities+Related+to+COVID-19+Pandemic](http://health.delhigovt.nic.in/wps/wcm/connect/doit_dbsah/DBSAH/Home/Education+and+Trainin+g/Training+Activities+Related+to+COVID-19+Pandemic).

This order issues with prior approval of Medical Director.

*Sunil Bhatnagar*  
Dr Sunil Bhatnagar  
AMS (A)

Copy to:

1. PS to MD for arrangements in Conference Hall
2. All AMS/ DMS
3. All HODs
4. Officials as above
5. DNS/ ANS
6. Guard File



Scanned with  
CamScanner

Dr Sunil Bhatnagar  
AMS (A)



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## A. Introduction:

The aim of this document is to provide evidence-based information in the prevention and control of coronavirus disease (Covid 19) in our hospital

## B. Scope: Hospital Wide. This manual is relevant to all staff including doctors, nurses, other clinical professionals and paramedical staff involved in care of Covid Patients.

- a. To guide staff on general infection control policies and provide training on infection prevention and control-related parameters for staff.
- b. Provide guidelines for appropriate collection, transport & handling of specimens.
- c. Ensure safe practices to prevent infection in staff.
- d. Monitor sterilization, disinfection & the environment where necessary.

## C. Infection Control Precautions, Procedures and Practices

**C.1 Standard Precautions:** "Basic set of precautions to be used for ALL patients at ALL times regardless of confirmed or suspected status of patient."

Standard precautions relevant to dealing with Covid patients include:

1. Hand hygiene.
2. Use of appropriate Personal Protective Equipment (PPE).
3. Respiratory Hygiene
4. Injection safety
5. Medication Storage and Handling
6. Cleaning and Disinfection of Devices and Environmental Surfaces
7. Safe handling and cleaning of Soiled linen
8. Biomedical waste management.

### C.1.1 Hand Hygiene: Hand Washing and Antisepsis

#### Prerequisites of Hand Hygiene:

- Remove all jewellery from the hands when working in the hospital.
- Do not wear artificial fingernails or extenders when in direct contact with patients.
- Keep natural nails clean and short.
- Sleeves are rolled up to the elbow.



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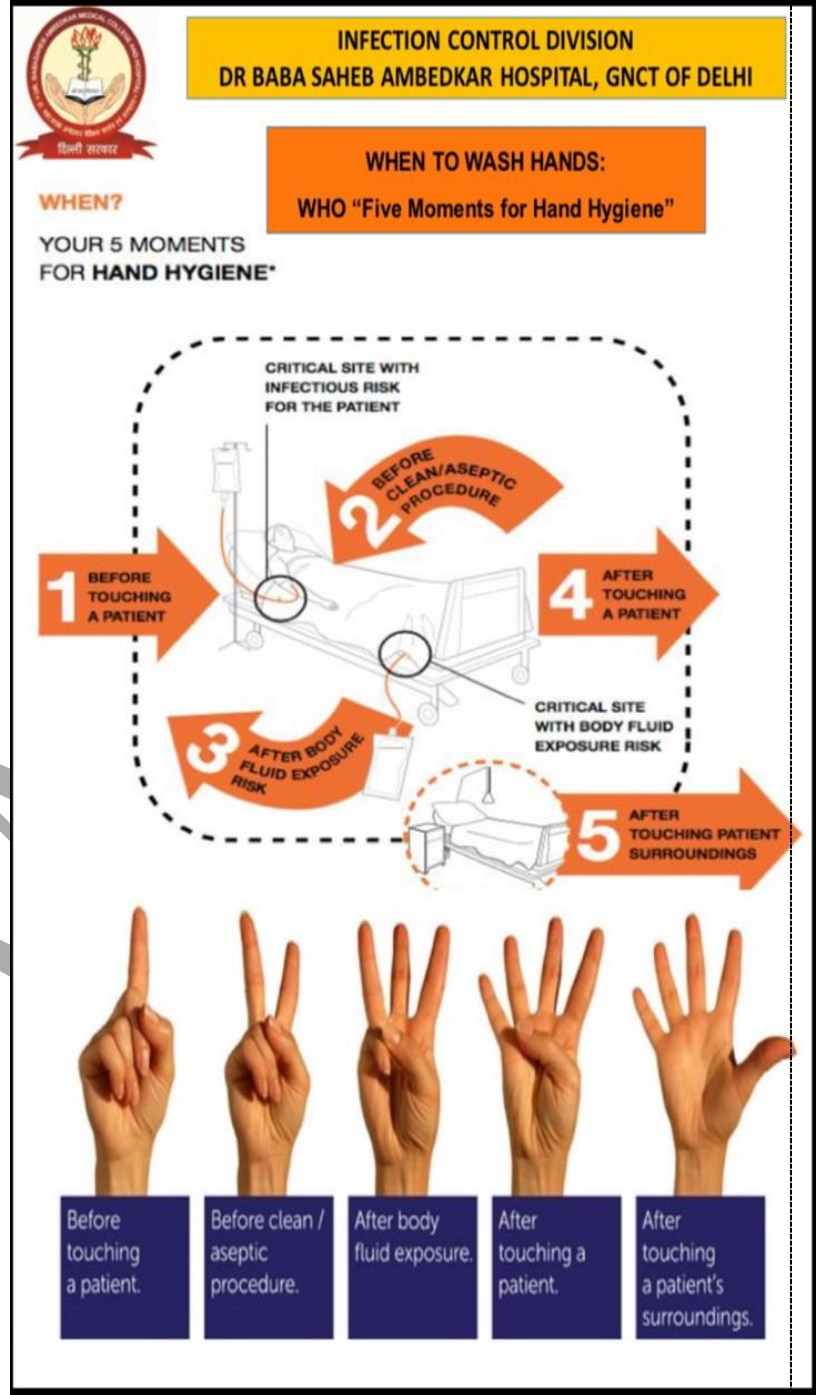
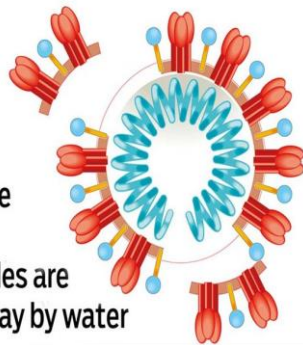
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### When to Wash Hands: “Five Moments for Hand Hygiene” (WHO)

This approach recommends health-care workers to clean their hands

- I. Before touching a patient
- II. Before clean/ aseptic procedures
- III. After body fluid exposure/ risk
- IV. After touching a patient
- V. After touching patient surroundings.
- VI.

...breaking down fragile envelope.  
Viral particles are washed away by water







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## How to Wash hands:

Step 0 - Wet hands with water.

Step 1- Apply enough soap to cover all hand surfaces.

Step 2 - Rub hands palm against palm.

Step 3 - Right palm over left dorsum with interlaced fingers and vice versa.

Step 4 - Palm against palm with fingers interlaced.

Step 5 - Backs of fingers to opposing palms with fingers interlocked.

Step 6 - Rotational rubbing of left thumb clasped in right palm and vice versa.

Step 7 - Rotational rubbing, backwards and forwards, with clasped fingers of right hand in left palm and vice versa.

Step 8 - Rinse hands with water.

Step 9 - Dry hands thoroughly with a single use towel or Air dry.

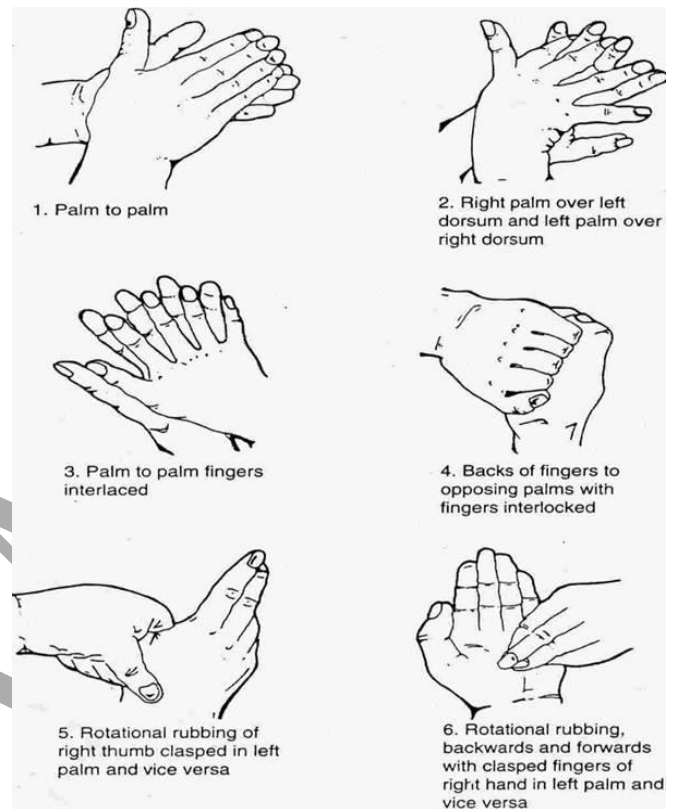
### How to use Hand Rub:

All steps are same except use alcohol-based hand rub instead of soap and water.

**Duration of Hand Wash: 40-60 seconds**

**Duration of Hand Rub: 20-30 seconds**

**Six Steps to Wash Hands or Use a Hand Rub:**



**Pneumonic to remember in Hindi "SUUMAN":**  
Seedha, Ulta, Ungliyaan, Muththi, Angooththa, Naakhun. Preferably add 'K' for Kalai

**Patient Hand Hygiene:** Hand hygiene for patients must be encouraged as it is equally as important in the prevention and control of infection.



**In-house Alcohol Based Hand Sanitizer by Department of Microbiology "CORO\_STER"**  
based on WHO recommended formula:

For One Litre Hand Sanitizer:

96% Ethanol: 833 ml

3% Hydrogen Peroxide: 41.7 ml

98% Glycerol: 14.5 ml

Mix together and add DW to make total 1L

Keep for 72 hrs, perform Sterility test before use.





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### C.1.2 Use of Personal Protective Equipment (PPE)

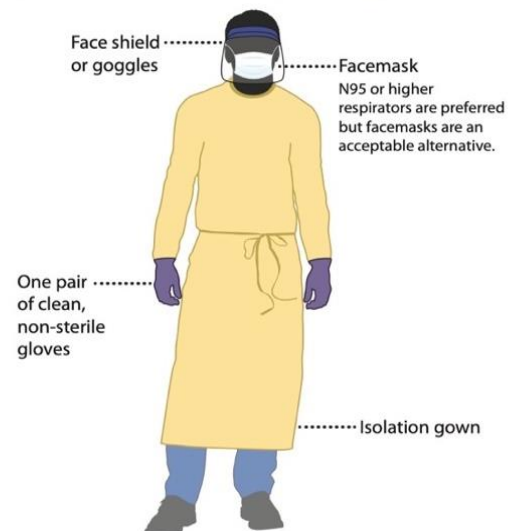
- Use of PPE does not replace the need to follow basic infection control measures. Always clean hands before and after using PPE.
- PPE reduces but does not completely eliminate the risk of acquiring an infection.
- It is important that it is used effectively, correctly, and at all times where contact with blood and body fluids of patients may occur.
- Change PPE immediately when it becomes contaminated or damaged.
- PPE should not be adjusted or touched during patient care:
  - Never touch your face while wearing PPE
  - If there is any breach in these practices, leave patient care area when safe, properly remove and change PPE
- To conserve PPE and limit contamination from repeated donning and doffing, HCWs are advised to remain in PPE during their entire shift. Activities may be bundled while in patient rooms to limit number of entries and exits.

### COVID-19 Personal Protective Equipment (PPE) for Healthcare Personnel

#### Preferred PPE – Use N95 or Higher Respirator



#### Acceptable Alternative PPE – Use Facemask



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[cdc.gov/COVID19](https://www.cdc.gov/COVID19)

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### **C.1.2.1 Rational use of PPE**

The PPEs are to be used based on the risk profile of the health care worker. The document describes the PPEs to be used in different settings.

#### **Hospital Setting**

##### **Out Patient Department (Respiratory Clinic / Separate screening area)#**

<b>S. No</b>	<b>Setting</b>	<b>Activity</b>	<b>Risk</b>	<b>Recommended PPE</b>	<b>Remarks</b>
1	Triage area	Triaging patients Provide triple layer mask to patient.	Moderate risk	N 95 mask Gloves	Patients get masked.
2	Screening area help desk/ Registration counter	Provide information to patients	Moderate risk	N-95 mask Gloves	
3	Temperature recording station	Record temperature with handheld thermal recorder	Moderate Risk	N 95 mask Gloves	
4	Holding area/ waiting area	Nurses / paramedic interacting with patients	Moderate Risk	N 95 mask Gloves	Minimum distance of one meter needs to be maintained.
5	Doctors chamber	Clinical management (doctors, nurses)	Moderate Risk	N 95 mask Gloves	No aerosol generating procedures should be allowed.
6	Sanitary staff	Cleaning frequently touched surfaces/ Floor/ cleaning linen	Moderate risk	N-95 mask Gloves	
7	Visitors accompanying young children and elderly	Support in navigating various service areas	Low risk	Triple layer medical mask	No other visitors should be allowed to accompany patients in OPD settings. The visitors thus allowed should practice hand hygiene



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### In-patient Services

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Individual isolation rooms/ cohorted isolation rooms	Clinical management	Moderate risk	N 95 mask Gloves	Patient masked. Patients stable. No aerosol generating activity.
2	ICU/ Critical care	Critical care management	High risk	Full complement of PPE	Aerosol generating activities performed.
3	ICU /critical care	Dead body packing	High risk	Full complement of PPE	
4	ICU/ Critical care	Dead body transport to mortuary	Low Risk	Triple Layer medical mask Gloves	
5	Sanitation	Cleaning frequently touched surfaces/ floor/ changing linen	Moderate risk	N-95 mask Gloves	
6	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.
7	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

### Emergency Department

S.No	Setting	Activity	Risk	Recommended PPE	Remarks
1	Emergency	Attending emergency cases	Moderate risk	N 95 mask Gloves	When aerosol generating procedures are anticipated
2		Attending to severely ill patients of SARI	High risk	Full complement of PPE	Aerosol generating activities performed.





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### Pre-hospital (Ambulance) Services

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1	Ambulance Transfer to designated hospital	Transporting patients not on any assisted ventilation	Moderate risk	N-95 mask Gloves	
		Management of SARI patient while transporting	High risk	Full complement of PPE	When aerosol generating procedures are anticipated
		Driving the ambulance	Low risk	Triple layer medical mask Gloves	Driver helps in shifting patients to emergency

### Other Supportive/ Ancillary Services

S. No.	Setting	Activity	Risk	Recommended PPE	Remarks
1.	Laboratory	Sample collection and transportation	High risk	Full PPE	
		Sample testing	High risk	Full PPE	
2	Mortuary	Dead body handling	Moderate Risk	N 95 mask Gloves	No aerosol generating procedures should be allowed. No embalming.
		While performing autopsy	High Risk	Full complement of PPE	No post-mortem unless until specified.
3	Sanitation	Cleaning frequently touched surfaces/ Floor/ cleaning linen in COVID treatment areas	Moderate risk	N-95 mask Gloves	
4	CSSD/Laundry	Handling linen of COVID patients	Moderate risk	N-95 mask Gloves	
5	Other supportive services	Administrative Financial Engineering Security, etc.	No risk	No PPE	No possibility of exposure to COVID patients. They should not venture into COVID-19 treatment areas.



### C.1.2.2 Sequence of Donning and Doffing PPE

#### DONNING OF PPE

- 1) REMOVE ALL ORNAMENTS AND ACCESSORIES  
↓
- 2) PERFORM HAND HYGIENE WITH SOAP & WATER/HAND RUB  
↓
- 3) CHECK FOR COMPLETION OF KIT, SIZE & ANY WEAR/TEAR  
↓
- 4) \* WEAR SHOE COVER & DO HAND RUB  
↓
- 5) WEAR FIRST PAIR OF GLOVES  
↓
- 6) WEAR APRON/ GOWN/ COVERALL  
↓
- 7) WEAR MASK & FIT PROPERLY  
↓
- 8) WEAR CAP/ HOOD  
↓
- 9) WEAR GOGGLES/ FACE SHIELD & DO HAND RUB  
↓
- 10) WEAR SECOND PAIR OF GLOVES AND PULL OVER THE SLEEVES OF GOWN

**ARTICLES NEEDED:**

- ✓ STERILE DRAPE ON TABLE
- ✓ CLEANING/ DISINFECTION OF CHAIR
- ✓ HAND SANITIZER
- ✓ FULL SIZE MIRROR

\* IN CASE A COVERALL IS PROVIDED WEAR THAT FIRST AND THEN FOLLOW THE SEQUENCE

#### DOFFING OF PPE

- 1) CHECK FOR ANY TEAR IN PPE & EXPOSED BODY PARTS  
↓
- 2) REMOVE FIRST PAIR OF GLOVES AND DO HAND RUB  
↓
- 3) REMOVE APRON / COVERALL, ROLL IT DOWN TOUCHING INNER SURFACE & HAND RUB  
↓
- 4) REMOVE SHOE COVER & DO HAND RUB  
↓
- 5) BEND FORWARD & REMOVE GOGGLES/FACE SHIELD & DO HAND RUB  
↓
- 6) REMOVE CAP & DO HAND RUB  
↓
- 7) BEND FORWARD, REMOVE MASK  
↓
- 8) REMOVE SECOND PAIR OF GLOVES  
↓
- 9) PERFORM HAND HYGIENE WITH SOAP AND WATER

**ARTICLES NEEDED:**

- ✓ CHAIR
- ✓ BMW BIN
- ✓ HAND SANITIZER



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## Precautions to be observed while Donning/ Doffing PPE:

PPE	While Donning	While Doffing
<b>Gown</b>	<ul style="list-style-type: none"> <li>Select appropriate size</li> <li>Opening in the back; secure at neck &amp; waist.</li> <li>Fully cover torso from neck to knees, arms and wrap around back</li> <li>If gown is too small, use two gowns.</li> <li>Put on first gown with opening in front and second gown over first with opening in back.</li> </ul>	<ul style="list-style-type: none"> <li>Gown front and sleeves are contaminated</li> <li>Unfasten gown ties taking care that sleeves don't contact your body</li> <li>Pull gown away from neck and shoulders, touching inside of gown</li> <li>Turn gown inside out</li> <li>Fold or roll into a bundle and discard in waste bin</li> </ul>
<b>Mask</b>	<ul style="list-style-type: none"> <li>Unfold the pleats; make sure that they are facing down.</li> <li>Place over nose, mouth and chin.</li> <li>Fit the flexible nose piece over Nose Bridge.</li> <li>Secure with tie strings (upper string to be tied on top of head above the ears –lower string at the back of the neck.)</li> <li>For respirators, perform 'Fit check' Exhale – Place palms of both hands around face on each side of your mask. Blow out air and check for leakage</li> <li>Do not wear respirator/facemask under chin or store in scrubs pocket</li> </ul>	<ul style="list-style-type: none"> <li>DO NOT TOUCH Front of mask/ respirator: Front of mask/ respirator is Contaminated</li> <li>Grasp bottom ties or elastics of the mask/ respirator, then the ones at the top, and remove without touching front</li> <li>Discard in a waste container</li> </ul>
<b>Goggles/ Eye Shield</b>	<ul style="list-style-type: none"> <li>Position device over face and/or eyes and secure to head using attached earpieces or head band.</li> <li>Goggles should feel snug but not tight.</li> </ul>	<ul style="list-style-type: none"> <li>Consider outside of goggles/ face shield as contaminated</li> <li>Remove goggles by lifting head band or earpieces</li> <li>If the item is reusable, place in designated receptacle for reprocessing; otherwise discard in waste bin.</li> </ul>
<b>Gloves</b>	<ul style="list-style-type: none"> <li>Wear gloves according to your fit</li> <li>Change gloves between patients &amp; during patient care if contaminated.</li> <li>If the integrity of a glove is compromised change as soon as possible and complement with hand hygiene.</li> <li>Extend to cover wrist of isolation gown</li> <li>Double gloving in highly infectious or high-risk procedures, is appropriate.</li> <li>Keep hands away from face</li> <li>Limit surfaces touched</li> </ul>	<ul style="list-style-type: none"> <li>Outside of gloves are contaminated</li> <li>If your hands get contaminated during glove removal, immediately wash hands or use hand rub</li> <li>Using gloved hand, grasp palm area of another glove and peel off first glove</li> <li>Hold removed glove in gloved hand</li> <li>Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove</li> <li>Discard gloves in waste bin</li> </ul>





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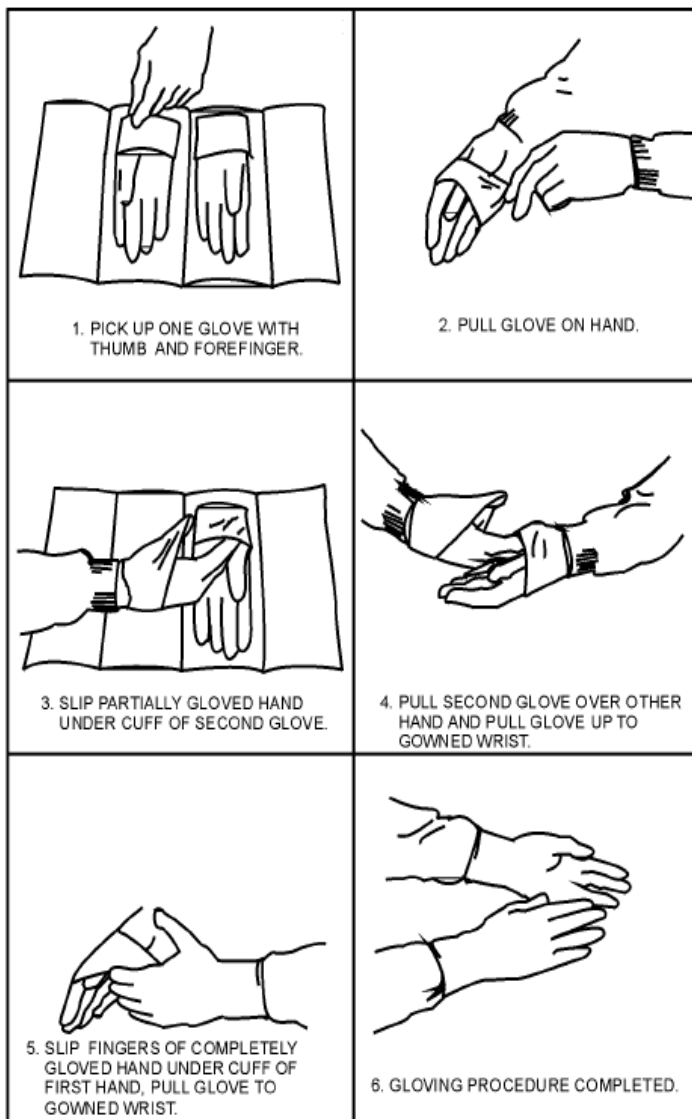
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- Touch 'clean' areas when removing PPE. These include inside gloves; inside and back of gown, and ties of mask, goggles or face shield.
- Doff PPE gently, avoiding a forceful movement.
- Bend forwards while removing gown, mask or face/eye shield.
- Perform hand hygiene after each PPE is removed.

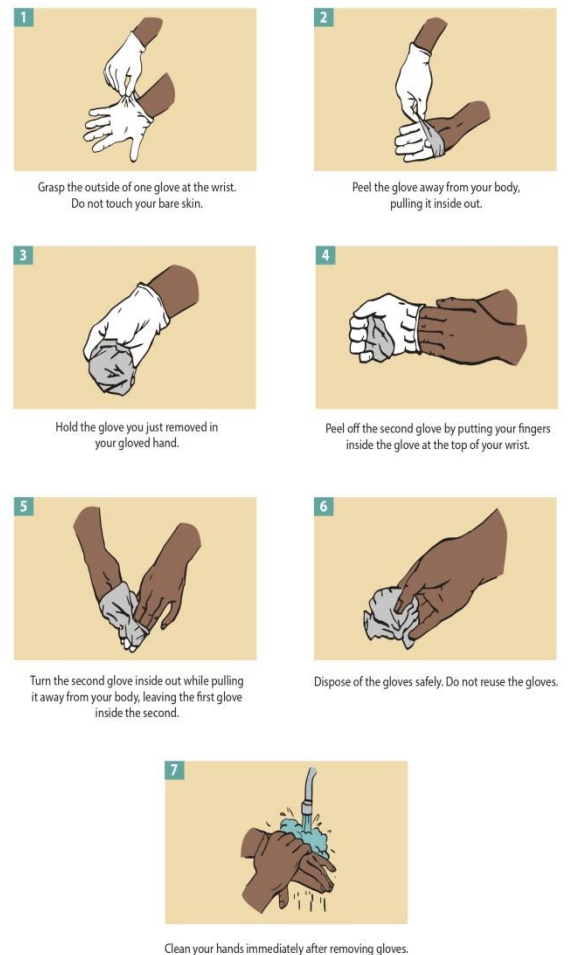
### How to Wear Gloves (Sterile):


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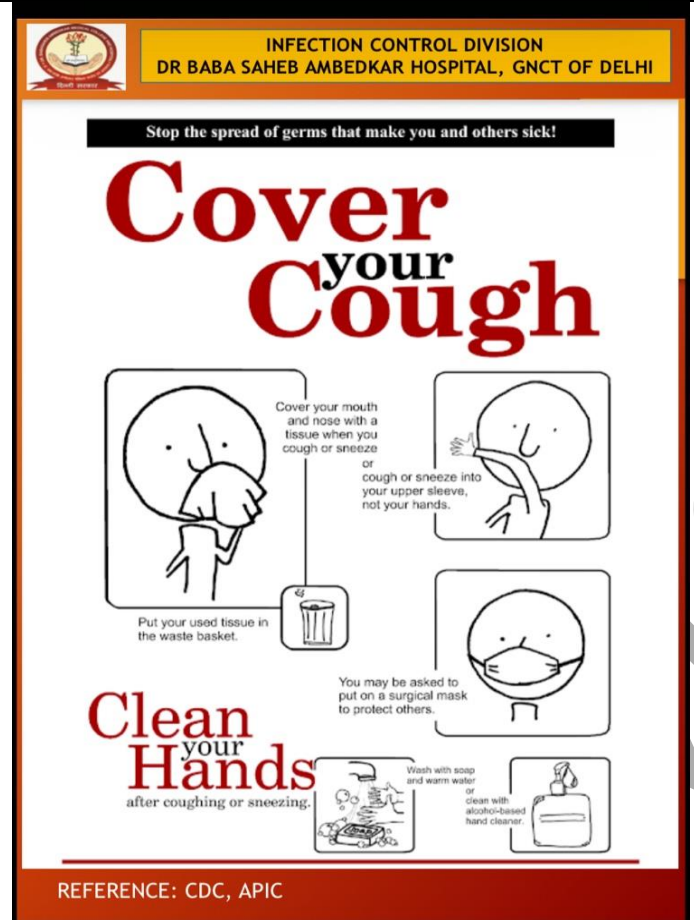
### How to Remove Gloves

To protect yourself, use the following steps to take off gloves



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### C.1.3 RESPIRATORY HYGIENE AND COUGH ETIQUETTE



**Stop the spread of germs that make you and others sick!**

# Cover your Cough

Cover your mouth and nose with a tissue when you cough or sneeze or cough or sneeze into your upper sleeve, not your hands.

Put your used tissue in the waste basket.

# Clean your Hands

after coughing or sneezing.

Wash with soap and warm water or clean with alcohol-based hand cleaner.

REFERENCE: CDC, APIC

### How to Properly Put on and Take off a Disposable Respirator

**WASH YOUR HANDS THOROUGHLY BEFORE PUTTING ON AND TAKING OFF THE RESPIRATOR.**

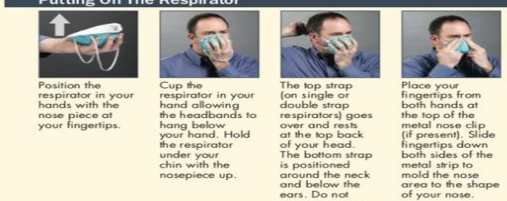
If you have used a respirator before that fit you, use the same make, model and size.

Inspect the respirator for damage. If your respirator appears damaged, DO NOT USE IT. Replace it with a new one.


Do not allow facial hair, hair, jewelry, glasses, clothing, or anything else to prevent proper placement or come between your face and the respirator.

Follow the instructions that come with your respirator.<sup>1</sup>


#### Putting On The Respirator



#### Checking Your Seal<sup>2</sup>




#### Removing the Respirator



Employers must comply with the OSHA Respiratory Protection Standard, 29 CFR 1910.134 if respirators are used by employees performing work-related duties.

<sup>1</sup> Manufacturer instructions for many NIOSH approved disposable respirators can be found at [www.cdc.gov/niosh/nppi/topics/respirators/disp\\_part/](http://www.cdc.gov/niosh/nppi/topics/respirators/disp_part/)

<sup>2</sup> According to the manufacturer's recommendations



1. Source control measures (Covering the mouth/nose with tissue or a cloth when coughing or sneezing or with flexed elbow)
2. Spatial separation, ideally >3 feet or 1 meter, of persons with respiratory infections in wards or common waiting areas.
3. Masks to be provided to coughing patients to contain dispersion of respiratory secretions.
4. Hand hygiene after contact with respiratory secretions
5. Do not spit here and there
6. Healthcare personnel to observe Droplet precautions (i.e. wear a mask) and hand hygiene when examining and caring for patients with signs and symptoms of respiratory infections.
7. Turn head away from others while coughing/ sneezing. Healthcare personnel who have a respiratory infection to avoid direct patient contact and wear a mask.



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## 1.4 SAFE INJECTION PRACTICES: DO'S AND DON'TS

DO'S	DON'T
<ul style="list-style-type: none"><li>• Maintain hand hygiene (use soap and water or alcohol rub)</li><li>• Use fresh alcohol swab to clean the site for injections and plain sterile swab for vaccinations</li><li>• Use a single-use device for blood sampling and drawing</li><li>• After giving injection, break the plunger of syringe and needle through hub cutter</li><li>• Where recapping of a needle is unavoidable, use one-hand scoop technique</li><li>• Seal sharps container with tamperproof lid</li><li>• One needle, One syringe, One patient</li><li>• Take post exposure prophylaxis in case of Needle Stick Injuries and Blood &amp; Body Fluid splash.</li></ul>	<ul style="list-style-type: none"><li>• Don't Pre-Soak cotton wool</li><li>• Don't Re use a syringe, needle or lancet</li><li>• Don't Use a single loaded syringe to administer medication to several patients</li><li>• Don't touch the puncture site after disinfecting it.</li><li>• Don't Change the needle in order to reuse the syringe</li><li>• Don't use the same mixing syringe to reconstitute several vials</li><li>• Don't Leave an unprotected needle lying outside anywhere</li><li>• Don't Recap a needle using both hands</li><li>• Don't Overfill or decant a sharps container</li><li>• Don't Delay PEP beyond 72 hours, delayed PEP is NOT effective</li></ul>

## NEEDLE STICK INJURY POLICY IN OUR HOSPITAL

1. Do not panic.
2. Do not press at the site of needle stick; let the injury bleed.
3. Wash the injured area under running water using soap.
4. Immediately report to your In-charge and Casualty Medical Officer (CMO) on duty.
5. The CMO designates the 'Status' and 'Exposure' codes. Post Exposure Prophylaxis (PEP) is advised by Nodal Officer ART during working hours (9AM -3 PM), otherwise by the CMO.
6. Pre and posttest Counseling is done at at ICTC center of BSAH (Microbiology Department): R No 1036-1037, Basement.
7. Staff and source patient are tested for HIV, HbsAg and anti HCV.
8. Post Exposure Prophylaxis (PEP): Initiated, ideally within one hour unless the source is known to be negative for HBV, HCV, HIV.
9. For suspected HIV exposure, PEP protocol includes 3 antivirals for 4 weeks.
10. For suspected Hepatitis B exposure, Immunoglobulin (HbIg) or HbsAg Vaccine is initiated, if required.
11. Follow up of exposed individuals include counseling, and HIV testing at 6 weeks, 12 weeks and 6 months after exposure.
12. Record the incident in 'Accident and Incident Reporting Register' in your Department.
13. Assessment of Injury prevention is done.



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### C.1.5 Infection Control Precautions in case of Exposure to other areas

#### Exposure to Skin:

1. Wash with soap and water.

#### Mucosal Exposure e.g. Splash into Eye

1. Wash using clean water or normal saline to irrigate the eye, preferably at the Eye wash station.
2. If wearing contact lenses, leave them in place while irrigating as they form a barrier. Clean them separately.
3. Do not use soap or disinfectant.
4. Contact lens wearers touch their eyes more than the average person.  
“Consider wearing glasses more often. Substituting glasses for lenses can decrease irritation and force you to pause before touching your eye.”
5. Safety goggles may offer a stronger defense.

### C.1.6 Isolation Policy and Transmission Based Precautions for Covid 19

- I. Infection by direct or indirect contact:** Infection occurs through direct contact between source of infection and recipient or indirectly through contaminated objects.
- II. Air-borne infection:** Infection usually occurs by respiratory route, with agent present in aerosols (less than 5  $\mu\text{m}$  diameter) generated through dissemination of either air-borne droplet nuclei containing microorganisms which remain suspended in air for long periods, or dust particles containing infectious agent. Microorganisms may be inhaled by a susceptible host within the same room or over a longer distance from the source patient. The isolation room should have negative air pressure with means to discharge air to the outside of building, such as an exhaust fan; and self-closing devices on doors.
- III. Droplet infection:** Large droplets carry the infectious agent (greater than 5  $\mu\text{m}$  in diameter). Droplets are generated primarily during coughing, sneezing, and procedures such as suctioning and bronchoscopy. Transmission occurs when these droplets containing microorganisms are propelled a short distance through air placement and deposited on host's conjunctivae, nasal mucosa, or mouth. Instruct patient also to wear a face mask if he can tolerate; practice respiratory hygiene and cough etiquettes.

#### General Consideration for all Isolation Precautions:

- **Hand Hygiene:** Perform hand hygiene before touching the patient and prior to wearing gloves. Also perform hand hygiene after touching the patient and after removing gloves.
- **PPE use:** When touching the patient and the patient's immediate environment or belongings.
  - **Contact Precautions:** Gloves, gowns
  - **Droplet Precautions:** Mask, gloves, gown, goggles



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- **Airborne Precautions:** Mask/ N95 respirator, gloves, gown, goggles, cap, shoe cover (Full set of PPE)
- **Cleaning and Disinfection:** Done after each procedure in examination room.
- **Occupancy:** A single room is preferable for such patients. Cohort only with patients who are affected by the same organism.
- **Spacing between beds:** In open wards there should be adequate spacing (optimum 1-2 meters or > 3 feet) between each bed to reduce the risk of cross-contamination or infection occurring from direct or indirect contact or droplet transmission.
- **Patient transport:** Limit the movement and transport of the patient from the room for essential purposes only. Where necessary ensure that adequate precautions are taken to minimize the risk of transmission to others, and contamination of environmental surfaces or equipment.
- **Patient care equipment:** Where possible dedicate the use of patient care equipment to a single patient. Otherwise, ensure that all items are adequately cleaned or disinfected before use for another patient.
- **Duration of Precautions:** Isolation is recommended till resolution of symptoms that lead to the isolation.

Chain of transmission	Breaking the chain
<b>Infectious agent</b>	Hand hygiene Cleaning/ Disinfection/sterilization
<b>Reservoir</b>	Environmental cleaning Waste management Disinfection/sterilization of surfaces/equipment
<b>Portal of exit</b> Excretion and secretions Respiratory tract Mucous membrane	Hand hygiene, PPE Environmental cleaning Containing excretions and secretions
<b>Mode of transmission</b> Contact/ Droplet/ Airborne	Hand hygiene, PPE Environmental cleaning Respiratory etiquette Spatial separations Air flow control
<b>Portal of entry</b> Respiratory tract Mucous membrane	Hand hygiene Use of PPE Aseptic techniques
<b>Susceptible host</b> Elder persons, Immunocompromised, Invasive diseases, Poor nutrition	Recognition of high-risk patients Isolation Treatment of underlying disease Immunization, whenever available



### C.1.7 CLEANING (HOUSEKEEPING) AND DISINFECTION

**Definition:** Disinfection is a process where most microbes are removed from defined object or surface, except bacterial spores. <sup>[SEP]</sup>

#### Guidelines for Use of Disinfectants in Covid Isolation wards/ ICUs

Name of Disinfectant	Use	Method of Dilution	Contact Time	In Use Span
Glutaraldehyde (2.4%)	For semi critical instruments and equipment like endotracheal tubes, anesthesia breathing circuits, respiratory therapy equipment	Add activator powder / liquid to the disinfectant in 5-liter jar and use undiluted	Disinfection: 20-30 mins <sup>[SEP]</sup> Sterilization: 10 hours	14 days used for heat sensitive instruments
Sodium Hypochlorite Available Preparation: 5% (Household Bleach)	For Surface disinfection	For preparation of 1% sodium hypochlorite: 100 ml of 5% Sodium Hypochlorite in 400 ml of water	20-30 minutes Stable up to 8 hours	Blood and body fluid spills, and surface decontamination
70% Alcohol	For Surface disinfection, Stethoscopes, BP Cuffs, Injection trays/ trolley	Do not Dilute	2-5 minutes	24 hours Surface/Instruments disinfection

- Cleaning with detergent and water is effective for surface cleaning
- If soiled materials dry or bake onto the surfaces or instruments, the disinfection process becomes less effective, hence it must be cleaned with detergent first.
- Always wear utility gloves, a mask, protective eyewear and apron when cleaning instruments and other items.





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➤ High touch surfaces should be disinfected every 3-4 hours,

- Doorknobs, Bedrails, Bed table, Nursing Counters, Handrails
- Light switches, Lift buttons, Wall areas around the toilet in the patient's room

➤ Low touch surfaces (floors, mirrors and ceilings), once in each shift.

### Miscellaneous items

- Kidney basins, basins, bed pans, urinals, etc to be cleaned with detergent and water and disinfected with 1% hypochlorite solution.
- For sputum collection, sputum specimen containers are to be given to the patients. The patients are advised to keep them tightly closed and they should be discarded as biomedical waste each day.

**Mopping Schedule:** Floors should be mopped with detergent and water and then with disinfectant at least once in each shift.

### Triple bucket mopping method:

1. Prepare fresh disinfectant solution as indicated in one bucket, water in One bucket one more bucket for rinsing the mop (in heavily soiled floor one bucket with Detergent and warm water before disinfectant mopping).
2. . Use separate mop for different areas (patient area, nurses room-store room, varanda-pantry, bathroom-to dry the floor).-
3. . Wash the mop under running water before doing wet mopping. 1% and for dry the mop
4. Mopping method
  - a. Place 'wet floor' caution sign outside of room or area being mopped.
  - b. Divide the area into sections (e.g. corridors may be divided into two halves, lengthwise so that one side is available for movement of traffic while the other is being cleaned).





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### **C.1.8 Laundry management:**

- Linen should be handled as little as possible and with minimum agitation to prevent gross microbial contamination of the air and of persons handling the linen.
- Bed linen is to be changed whenever soiled with blood or body fluids or every 2-3 days, whichever is early. Use disposable sheets if possible.
- Patient's clothes to be changed every day and whenever soiled with blood or body fluids.
- Linen must be bagged at the bedside, never shaken or allowed to touch the floor.
- Linen are held away from the body to prevent contamination of clothing.
- It should not be sorted or pre-rinsed in patient-care areas
- All linen is to be treated as soiled linen and sent in yellow bag to prevent leakage.
- No extraneous items must be placed in the laundry bags, especially sharp objects. This may contribute to a health & safety risk for the laundry workers.
- Laundry items must be securely tied.
- Labeled as appropriate and stored in an area designated for the purpose, which is safe and separate from patient areas.

### **Transporting Used Linen from Ward / Department**

- Laundry cart will be separate for the Covid Isolation rooms and demarcated as such.
- Linen handlers must use heavy-duty rubber gloves and masks while handling linen from Covid ward.
- They should wash hands after picking up the linen.
- This linen shall go through a separate lift designated for soiled linen and BMW.
- In laundry this linen undergoes sluicing process with 0.5% sodium hypochlorite and is washed separate from other hospital linen in hot water at 60-70 degrees C in a separate washing machine.
- Laundry personnel are responsible for cleaning and disinfection of the Trolley


### **Return of Clean Linen TO THE USER**

Contamination of clean linen must be prevented by:

- Storage in a clean, dry area
- Transport in white/steel trolleys which are cleaned and disinfected prior to loading.  
Linen that is (or thought to be) contaminated must be returned to laundry for re-processing.

### **Infection Control Issues in the Laundry**

- No person shall be permitted to work in laundry while suffering from an infection.
- Regular cleaning of the environment including high touch surfaces.
- Personal protective clothing like apron, heavy duty rubber gloves, masks should be worn when handling linen.
- All such clothing must be removed and changed each time the person leaves the department.

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### C. 1.9 Guidelines for Handling, Treatment and Disposal of Waste Generated During Treatment/ Diagnosis/ Quarantine of Covid -19 Waste

REFERENCE: CENTRAL POLLUTION CONTROL BOARD, MARCH 2020

#### COVID 19 ISOLATION WARDS:

1. Separate color coded bins/bags/containers in wards and maintain proper segregation of waste as per BMW 2016 and as amended for implementation
2. Double layered bags (using 2 bags) should be used for collection of waste to ensure no leaks. Use dedicated collection bin labeled as “COVID 19” and store separately.
3. Biomedical waste “COVID 19” can be lifted directly from the isolation wards into CBWTF collection van.
4. The bags should carry label stating clearly that it is “COVID 19” waste.
5. General waste not having contamination should be disposed as solid waste as per SWM Rules, 2016.
6. Maintain separate record of waste generated from “COVID 19” isolation wards.
7. Use dedicated trolleys and collection bins in the “COVID 19” isolation wards. Put label on collection trolley also as “COVID 19”.
8. The inner and outer surface of containers/bins/trolleys used for storage of “COVID 19” waste should be disinfected with 1% sodium Hypochlorite solution
9. Dedicated staff to be deputed for handling of BMW.

The Common Biomedical Waste Treatment Facilities identified for Dr BSA Hospital:

**BIOTIC WASTE SOLUTIONS PVT. LTD**

**Telephone Nos: 9899910083 / 9667331276 / 9560896389 ( 24 x 7 helpline)** for ensuring urgent collection and scientific & safe disposal of this waste.



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**BIOMEDICAL WASTE MANAGEMENT CELL**  
**DEPARTMENT OF MICROBIOLOGY**  
**DR BABA SAHEB AMBEDKAR HOSPITAL, ROHINI (GNCT DELHI)**

**पीला बैग/YELLOW BAG**

- मानव और पशु शारीरिक कचरा / Human & Animal Anatomical Waste (क़तक, अंग, शरीर के अंग, घृण आदि) / (Tissues, Organs, Body Parts, Fetus etc.)
- सौइलड कचरा / Soiled Waste (ड्रेसिंग, प्लास्टर कास्ट, सूती फाहा, अवशिष्ट / त्याग रक्त बैग घटक) / (Dressings, Plaster Casts, Cotton Swabs, Residual/Discarded Blood Bag Comp.)
- निष्कासित या अस्वीकृत दवा / Expired or Discarded Medicine (एंटीबायोटिक आदि) / (Antibiotic etc.)
- रासायनिक कचरे / Chemical Waste (अस्वीकृत अभिकर्मक, कीटाणुनाशक) / (Discarded Reagents, Disinfectants)
- त्यागा हुआ लिनेन, गद्दे और बिस्तर / Discarded Linen, Mattresses & Beddings
- माइक्रोबायोलॉजी, बायोटेक्नोलॉजी और क्लिनिकल लैब कचरा / Microbiology, Biotechnology & Clinical Lab Waste (ब्लड बैग्स, वैक्यूअलर, कल्चर, रेसिडुअल टॉक्सिन, व्यंजन उपकरण, सूक्ष्मजीव प्रजातियाँ) / (Blood Bags, Vacutainers, Cultures, Residual Toxins, Dishes, Devices, Microorganisms.)
- रुटीन मास्क और गाउन / Routine Mask & Gowns



**लाल बैग RED BAG**

- दूषित कचरा-पुनर्चक्रण / Contaminated Waste-Recyclable (एम्बिंग, प्लास्टिक की बोतलें, अंतःशिरा ट्यूब और सेट, कैथेटर्स, मूत्र बैग, दस्ताने और सुई के बिना सिरिंज) / (Tubings, Plastic Bottles, Intravenous tubes & sets, Catheters, Urine Bags, Syringes without needle and Gloves)



**सफेद कंटेनर/WHITE CONTAINER**  
**पंचर व टेम्पर प्रूफ कंटेनर**  
**PUNCTURE & TAMPER PROOF CONTAINER**

- घातु सहित तेजघार कचरा / Waste Sharps Including Metals (सुई, सुई के साथ सिरिंज, सुई कटर या नर्नर से निकली हुई सुईया, स्कैल्पल ब्लेड, सुक्षित तेज वस्तुएं) / (Needles, Syringes with needles, Needles from needle tip cutter or Burner, Scalpels, Blades, Contaminated sharp objects)



**नीला कंटेनर/BLUE CONTAINER**

**पंचर व लीक प्रूफ डिब्बा या कंटेनर**  
**PUNCTURE PROOF AND LEAK PROOF**  
**BOXES OR CONTAINERS**

- कांच के बने पदार्थ / Glassware (दूषित टूटे/निकले हुए ग्लास, शीशियों, एम्प्यूल, माइक्रोस्कोप स्लाइड, खाली शिरप कांच की बोतलें) / (Contaminated Broken/Discarded glass, Vials, Ampoules, Microscope Slides Empty Syrup Glass Bottles)
- घातु शरीर प्रत्यारोपण / Metallic Body Implants



**SEGREGATION OF BIOMEDICAL WASTE**

**Bio-Medical Waste Management Rules: The Gazette of India**  
Ministry of Environment Forest and Climate Change Notification, 28th March 2016, 2018  
BMW DIVISION, DPCC





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### C.1.10 SPILL MANAGEMENT

1. Cordon the area, open the 'Spill Management Kit'.
2. Wear gloves and protective clothing, including face and eye protection (PPE).
3. Cover the spill with filter paper/ absorbent gauze to contain it.
4. Prepare working concentration of disinfectant. Make fresh bleaching solution (7gm of bleaching powder in 1 Litre water) or dilute 100 ml of available 5% sodium hypochlorite solution in 400 ml of water) which equivalent to 1% strength.
5. Pour an appropriate amount over the absorbent material in a concentric manner beginning at the outer margin of the spill area, working toward the centre.
6. After the appropriate amount of contact time (20 min), clear away the materials using stiff cardboards and discard in YELLOW BAG.
7. If there is broken glass or other sharps involved, collect the material using a dustpan or pieces of stiff cardboard and discard in appropriate Container.
8. Disinfect and mop clean the area of the spillage.
9. Dispose of contaminated materials into Yellow bag, gloves in red bag.
10. Thoroughly wash hands with soap and water.
11. Record in the BMW (Bio-Medical Waste) register.
12. Replace the contents of Spill Kit.

A second decontamination may be done if required.





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## C. Laboratory Diagnosis of Covid 19 Infection

Guidance on specimen collection, processing, transportation, including related biosafety procedures, is available on <https://mohfw.gov.in/media/disease-alerts>. As per directive from MoHFW, Government of India, all suspected cases are to be reported to district and state surveillance officers.

### Sample collection:

#### Preferred samples:

- Throat swab (Oropharyngeal swab)
- Nasal swab (Nasopharyngeal swab)

**Alternate:** Bronchoalveolar lavage (BAL), endotracheal aspirate or sputum

#### General guidelines:

- Trained health care professionals to wear appropriate PPE and maintain proper infection control when collecting specimens
- Complete the requisition form for each specimen submitted
- Proper disposal of all waste generated

#### Respiratory specimen collection methods:

**Optimal timing:** Within 3 days of onset of symptoms, no later than 7 days

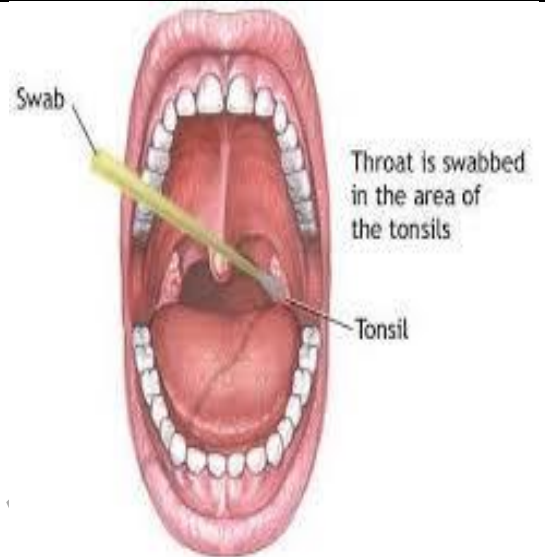
#### Material required:

1. VIRAL TRANSPORT MEDIUM (3 ML STERILE VTM)
2. STERILE DACRON OR NYLON FLOCKED SWAB
3. SCISSORS
4. PARAFFIN / CELLOTAPE
5. TISSUE PAPER
6. ZIP LOCK POUCHES
7. LEAK PROOF SCREW CAPPED TRANSPARENT PLASTIC CONTAINER
8. GEL PACKS
9. OUTER CONTAINER (ANY ONE) THERMOCOL BOX/ VACCINE CARRIER/ PLASTIC CONTAINER
10. PROFORMA

In hospitalized patients with confirmed COVID - 19 infection, repeat upper respiratory tract samples should be collected to demonstrate viral clearance.

**Oropharyngeal swab (e.g. throat swab):****Procedure:**

- Explain the procedure to the subject and gain his confidence.
- Tilt patient's head back.
- Have the subject say 'aahh' to elevate the uvula and close his eyes
- Rub swab over both tonsillar pillars and posterior oropharynx and avoid touching the tongue, teeth, and gums.
- Use only synthetic fiber swabs with plastic shafts.
- Do not use calcium alginate swabs or swabs with wooden shafts.
- Place swab immediately into VTM and snap/ cut off the applicator stick.

**Nasopharyngeal swab:****Procedure:**

- Explain the procedure to the subject and gain his confidence.
- Tilt patient's head back 70 degrees.
- Insert flexible swab through the nares parallel to the palate (not upwards) until resistance is encountered or the distance is equivalent to that from the ear to the nostril of the patient.
- Gently, rub and roll the swab.
- Leave the swab in place for several seconds to absorb secretions before removing.
- Place swab immediately into VTM and snap/ cut off the applicator stick.







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## Specimen Collection, Packaging and Transport Guidelines for 2019 novel Coronavirus

### Requirements for Clinical Samples Collection, Packaging and Transport

1. Sample vials and Virus Transport Medium (VTM)	2. Adsorbent material (cotton, tissue paper), paraffin, seizer, cello tape	3. A leak-proof secondary container (e.g., ziplock pouch, cryobox, 50 mL centrifuge tube, plastic container)
4. Hard-frozen Gel Packs	5. A suitable outer container (e.g., thermocol box, ice-box, hard-board box) (minimum dimensions: 10 x 10 x 10 cm)	

### PROCEDURE FOR SAMPLE PACKAGING AND TRANSPORT

1. Use PPE while handling specimen	2. Seal the neck of the sample vials using parafilm	3. Cover the sample vials using absorbent material	4. Arrange primary container (vial) in secondary container
		<p>Note: Sample vials can also be placed inside a zip-lock pouch, covered in absorbent material and secured by heat-sealing or rubber bands. Then, the zip-lock pouch should be placed inside another plastic pouch and secured</p>	
5. Placing the centrifuge tube inside a zip-lock pouch	6. Placing the zip-lock pouch inside a sturdy plastic container and seal the neck of the container	7. Using thermocol box as outer container and place secondary container within it, surrounded by hard-frozen gel packs	
7. Using a hard card-board box as an outer container and placing the secondary container and the gel packs	8. Placing the completed Specimen Referral Form and request letter inside a leak-proof, zip-lock pouch	9. Securing the zip-lock pouch with the Specimen Referral Form on the outer container	10. Attaching the labels: Senders' address, contact number; Consignee's address /contact number; Biological substance-Category B; UN 3373; Handle with care, Orientation label

**Specimen storage:** Keep refrigerated (2-8° C) if it is to be processed or sent to a reference laboratory within 48 hours. For samples requiring processing later than 48 hours but within 7 days must be placed between -10 to -20° C. Keep frozen (-70° C) if it is to be processed after a week.





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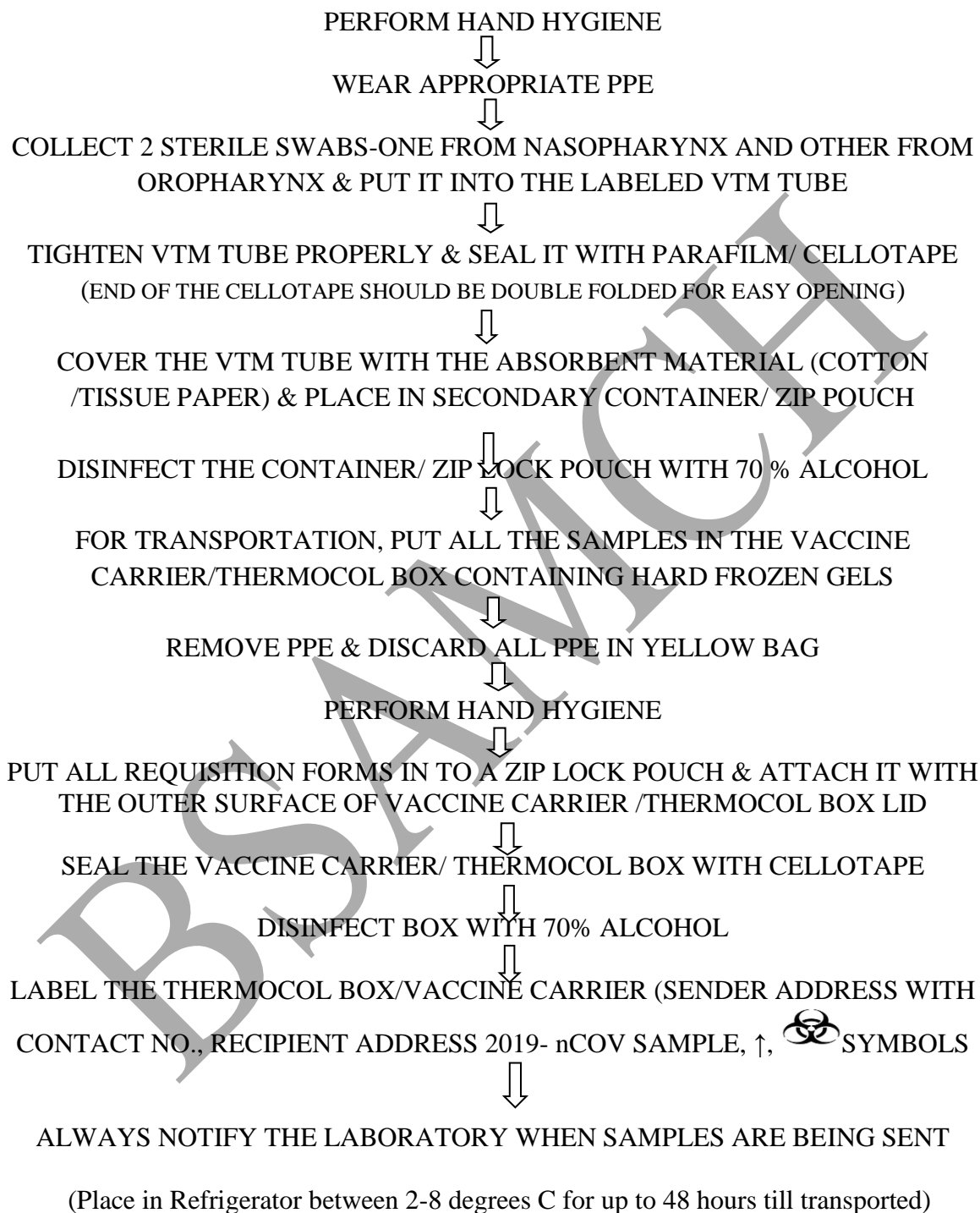
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## **FLOWCHART FOR COLLECTION AND PACKAGING OF SAMPLE**



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## E. Infection Control Precautions for Laboratory Technical Staff

### E.1: Good Laboratory Practice and Procedure (GLPP): Core Requirements

#### Best Practices:

- No food or drink, or personal items in the laboratory area.
- Do not put materials, such as pens, pencils or gum in mouth while inside the laboratory.
- Perform Hand hygiene using appropriate steps as per the “5 moments” for Laboratory.
- Ensure open flames or heat sources are never placed near flammable supplies or left unattended.
- Ensure that coverings are placed over any cuts/ broken skin prior to entering laboratory.
- Ensure supplies are stored appropriately and safely to reduce chance of accidents/ spills.
- Ensure proper labelling of all biological and chemical agents.
- Protect written documents/ registers from contamination using barriers (plastic covers).
- Ensuring work is performed with care, in a timely manner and without rushing.
- Keep the work area tidy, clean and free of clutter and unnecessary material.
- Use of earphones and cell phones is prohibited during work.
- Appropriately cover or remove jewellery which could be contaminated or act as fomite.


#### Technical procedures:

- Minimize the formation of aerosols and droplets when manipulating specimens.
- Handle all sharps/ needles with care to prevent injury and injection of biological agents.
- Never re-cap, clip or remove needles from disposable syringes.
- Dispose of any sharps materials in puncture-proof containers fitted with sealed covers.
- Discard specimens/ cultures in leak-proof containers with tops appropriately secured.
- Decontaminate work surfaces with 0.5% sodium hypochlorite at end of work

procedures.

#### Personal protective equipment

- Laboratory coats must have long sleeves, and must be worn closed. When not in use, store them appropriately and separate from other coats or personal items.
- Wear appropriate disposable gloves for all procedures involving blood, body fluids exposure.
- Use a mask to protect mouth, eyes and face during operation where splashes may occur.
- Safety glasses or other protective devices must be worn whenever necessary to protect eyes.
- Footwear must be slip-proof and reduce likelihood of injury and exposure to biological agents.

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## **E.2: Work Instructions for Respiratory Sample Processing in Microbiology**

1. PPE: Mask, gloves and laboratory coat/ apron to be worn while handling, transporting, processing and disposal of specimens.
2. All respiratory samples to be processed in the Biosafety cabinet towards the end of shift.
3. Ensure that your face is not at the same level as the sample processing area. Process respiratory samples while standing.
4. Make sure that no unwanted material is placed in the cabinet.
5. Switch on the flame.
6. Gently open cap of the specimen container using minimal agitation.
7. Take a loopful of material/ swab and place gently on culture media/ slides.
8. Close the container and culture plates.
9. Heat-fix the slides, if any.
10. Switch off the flame.
11. Close the sash of the cabinet for fumes to settle, for 10-15 minutes.
12. Discard samples and PPE as per BMW guidelines.
13. Wash hands with soap and water performing all 6 steps of hand hygiene.
14. Clean the cabinet work area with 1% sodium hypochlorite.
15. Close the cabinet again.



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## F. Checklist for Hospital Preparedness & Isolation Facility - COVID19

### I . GENERAL INFORMATION

1. Name of the healthcare facility (HCF)		
2. Type	<input type="checkbox"/> Public <input type="checkbox"/> Private	
3. Category of HCF	<input type="checkbox"/> Primary <input type="checkbox"/> Secondary <input type="checkbox"/> Tertiary	
4. Subcategory	<input type="checkbox"/> PHC <input type="checkbox"/> UPHC <input type="checkbox"/> CHC <input type="checkbox"/> Taluk/Sub-District Hospital <input type="checkbox"/> District Hospital <input type="checkbox"/> General Hospital <input type="checkbox"/> Medical College Hospital <input type="checkbox"/> Multi-Speciality Hospital <input type="checkbox"/> Nursing Home <input type="checkbox"/> Dispensary <input type="checkbox"/> Clinic	
5. Address of the health facility		
a) Block		
b) District		
c) State		
d) Email ID		
e) Contact no.		
6. Name of Director/ Principal/ Medical superintendent		
a) Email ID		
b) Contact no.		
7. Name of RMO/Hospital In-charge		
a) Email ID		
b) Contact no		
8. Total number of inpatient beds		
9. Total number of ICU beds		
10. Average number of OPD attendance per month		
11. Average number of new admissions /months		
12. Bed occupancy rate (Annual)		
13. Total staff strength	Doctors – MBBS	
	Doctors- AYUSH	
	Clinical Specialists other than Intensivist/Pulmonologist	
	Non-Clinical specialists other than Microbiologist	





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Microbiologists		
Intensivists #	Pulmonologist #	Int Pulm
Senior Resident #	Junior Resident #	SR JR
Interns		
Nurses		
Lab technicians		
Pharmacists		
Laboratory Technicians		
Cleaning staff		
Ambulance drivers		

14. Does this HCF have a designated COVID 19 isolation facility

☐ Yes ☐ No

## II. HCF PREPAREDNESS TO MANAGE MAJOR EPIDEMICS & PANDEMICS

15. Core Emergency Response/ Rapid Response Team for outbreak management identified?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
16. Roles and responsibilities of RRT/ERT clearly defined?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
17. Is there a contingency plan for covering for a core team member who is absent?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
18. Monitoring and managing HealthCare Personnel (HCP) a) The facility follows the Central/State public health policies/procedures for monitoring and managing HCP with potential for exposure to COVID-19 b) The facility have a process to conduct symptom and temperature checks prior to the start of duty shift for HCP	<input type="checkbox"/> Yes <input type="checkbox"/> No  <input type="checkbox"/> Yes <input type="checkbox"/> No
19. Training for Healthcare Personnel (HCP) a) Education and job-specific training to HCP regarding • Signs and symptoms of infection • Triage procedures including patient placement and filling the CIF • Safely collect clinical specimen • Correct infection control practices and PPE use • HCP sick leave policies • Recommended actions for not using recommended PPE • How and to whom suspected cases (COVID-19) should be reported	<input type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started <input type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started  <input type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started <input type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started  <input type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started <input type="checkbox"/> Completed <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started



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### III. TRIAGE

20. Triage protocols available at the healthcare facility?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
21. Availability of telemedicine facility as a way to provide clinical support without direct interaction with the patient	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
22. Is there specific waiting area for people with respiratory symptoms?	
23. Availability of designated ARI/COVID-19 triage area	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
24. Do they have non-contact Infra-Red thermometer available near the registration desk?	
25. Availability of signage directing to triage area and signage to instruct patients to alert staff if they have symptoms of COVID-19	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
26. Do they have dedicated/single examination rooms in Triage area? (Dedicated room should satisfy criteria of one patient per room with door closed for examination)	<input type="checkbox"/> Yes <input type="checkbox"/> No
27. Triage area has signs/alerts about respiratory etiquette and hand hygiene?	<input type="checkbox"/> Yes <input type="checkbox"/> No
28. Does the HCF provide masks for patients with respiratory symptoms?	<input type="checkbox"/> Yes <input type="checkbox"/> No
29. Triage staff trained on revised COVID19 case definition and identify suspected cases ?	<input type="checkbox"/> Yes <input type="checkbox"/> No
30. Screening questionnaire and algorithm for triage available with staff	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
31. Infrared thermometer available with the triage staff	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
32. Waste bins and access to cleaning/ disinfection supplies available in Triage area	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
33. Physical barriers (e.g., glass or plastic screens) at reception areas available to limit close contact between triage staff and potentially infectious patients	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
34. Does the patient waiting area have cross ventilation	<input type="checkbox"/> Yes <input type="checkbox"/> No
35. Waiting area cleaned at least twice daily with 0.5% hypochlorite solution (or) 70% alcohol for surfaces that do not tolerate chlorine	<input type="checkbox"/> Yes <input type="checkbox"/> No
36. Does the hospital have dedicated infrastructure for isolation facility? (If No skip to Section IV)	<input type="checkbox"/> Yes <input type="checkbox"/> No
37. Type of isolation Facility	<input type="checkbox"/> Temporary <input type="checkbox"/> Permanent

### IV Isolation Facility

38. Is the isolation facility near OPD /IPD/other crowded area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
39. Screening rooms identified and available at the isolation area?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
40. Is there separate entry to the isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No



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41. Dedicated space for staff to put on PPE while entering the isolated area	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
42. Is there separate exit for isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
43. Dedicated space for staff to take off PPE near exit?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
44. Isolation facility is separate and has rooms /wards?	<input type="checkbox"/> Rooms <input type="checkbox"/> Wards
45. Are washrooms available as 1 toilet per 20 persons?	<input type="checkbox"/> Yes <input type="checkbox"/> No
46. Number of beds in each isolation rooms/wards	<input type="checkbox"/> Yes <input type="checkbox"/> No
47. Is the distance between two beds in isolation wards/rooms more than 1 meter?	<input type="checkbox"/> Yes <input type="checkbox"/> No
48. Do the hospital have policy to segregate clinical staff (e.g. nurses) for care of COVID19 cases?	<input type="checkbox"/> Yes <input type="checkbox"/> No
49. Whether PPEs available and located near point of use?	
a. Gloves	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Gowns	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Face masks	<input type="checkbox"/> Yes <input type="checkbox"/> No
d. 95 respirators	<input type="checkbox"/> Yes <input type="checkbox"/> No
50. Whether the hospital limits the movement of patients in the isolation facility outside for medically necessary purposes only?	<input type="checkbox"/> Yes <input type="checkbox"/> No
51. Are the known or suspected COVID19 patients placed on contact and droplet precautions?	<input type="checkbox"/> Yes <input type="checkbox"/> No
52. If a patient leaves their room for medical purposes, are they provided facemask?	<input type="checkbox"/> Yes <input type="checkbox"/> No
53. Do staff transporting the patient wear PPE?	<input type="checkbox"/> Yes <input type="checkbox"/> No
54. While transporting patients are specific routes used to minimize contact with other patients and staff?	<input type="checkbox"/> Yes <input type="checkbox"/> No
55. For a patient on Airborne Precautions, air pressure is monitored daily with visual indicators (e.g., smoke tubes, flutter strips), regardless of the presence of differential pressure sensing devices (e.g., manometers):	
56. Are these isolation rooms/wards satisfying the criteria of negative pressure class N? (Applicable if an aerosol generating procedure is performed)	<input type="checkbox"/> Yes <input type="checkbox"/> No
57. Is there Provision food in the isolation area?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
58. Policy for leftover food waste management?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
59. Is there an ICU facility attached to isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
60. Availability of cross ventilation	<input type="checkbox"/> Yes <input type="checkbox"/> No
61. Is there any designated area for sample collection?	<input type="checkbox"/> Yes <input type="checkbox"/> No
62. Are they following standard precautions and PPE while taking sample?	<input type="checkbox"/> Yes <input type="checkbox"/> No
63. Does the facility have a written policy for sample collection and transport?	<input type="checkbox"/> Yes <input type="checkbox"/> No



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64. Are these sample transported in triple packing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
65. Does the transportation package contain IATA DG code (UN3373)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
66. Are they following standard precautions while transporting the sample?	<input type="checkbox"/> Yes <input type="checkbox"/> No
67. Are the floors of isolation facility suitable for moping?	<input type="checkbox"/> Yes <input type="checkbox"/> No
68. Is drinking water available at isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
69. Availability of management protocols for COVID19	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
70. Is rotation roster of duty shift for staff posted at isolation facility	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
71. Is there any protocol for limiting the entry of visitors at isolation area?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
72. Availability of separate Thermometers BP apparatus with adult & Paediatric cuffs?	<input type="checkbox"/> Yes <input type="checkbox"/> No
73. Availability of discharge policy for COVID19	<input type="checkbox"/> Available <input type="checkbox"/> In Progress <input type="checkbox"/> Not Started
<b>V. INFECTION PREVENTION AND CONTROL PRACTICES</b>	
74. Does the hospital have Hospital Infection control Committee (HICC)?	<input type="checkbox"/> Yes <input type="checkbox"/> No
75. Are there any infection control protocols/guidelines available?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
76. Functioning hand washing stations (including water, soap and paper towel or air dry) at isolation area?	
77. Does the facility have uninterrupted running water supply?	<input type="checkbox"/> Yes <input type="checkbox"/> No
78. Is alcohol based hand sanitizer available at isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
79. Are the staff following five movements of hand washing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
80. Are the staff following six steps of hand washing?	<input type="checkbox"/> Yes <input type="checkbox"/> No
81. Is there posters to reinforce hand washing and PPE at hand washing stations	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
<b>VI. ENVIRONMENTAL CLEANING</b>	
82. Are objects and environmental surfaces in patient care areas touched frequently (e.g., bed rails, over bed table, bedside commode, lavatory surfaces) are cleaned	<input type="checkbox"/> Yes <input type="checkbox"/> No
83. Are they disinfected with an approved disinfectant frequently (at least daily) and when visibly soiled?	<input type="checkbox"/> Yes <input type="checkbox"/> No
84. Is there cleaning chart?	<input type="checkbox"/> Yes <input type="checkbox"/> No
85. Frequency of cleaning of high touch areas, Bed rails, Tables, Chairs, Keyboards etc.,	
86. Is there any housekeeping policy available at isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
87. Availability of terminal cleaning checklist	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
88. Availability of three bucket system	<input type="checkbox"/> Yes <input type="checkbox"/> No





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89. Are they following correct contact time for disinfection with hypochlorite solution? (10 minutes for non-porous surfaces)	<input type="checkbox"/> Yes <input type="checkbox"/> No
90. Are the staff following outward mopping technique	<input type="checkbox"/> Yes <input type="checkbox"/> No
91. Availability of separate mops for each area	<input type="checkbox"/> Yes <input type="checkbox"/> No
92. Frequency of cleaning of isolation rooms?	
93. Frequency of cleaning of ambulatory areas?	
94. Frequency of cleaning of bathrooms of isolation areas?	
95. Staff wearing PPE while cleaning	
a. Gloves	<input type="checkbox"/> Yes <input type="checkbox"/> No
b. Masks	<input type="checkbox"/> Yes <input type="checkbox"/> No
c. Apron	<input type="checkbox"/> Yes <input type="checkbox"/> No
96. Are the staff trained in housekeeping and infection control practices?	<input type="checkbox"/> Yes <input type="checkbox"/> No
97. Doctors, nurses & cleaning staff available/ shift at isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
98. Barrier nursing practiced at isolation area in 1:1 ratio?	<input type="checkbox"/> Yes <input type="checkbox"/> No
99. Is there any policy for linen management for isolation facility?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
100. What is the frequency of changing linen in isolation rooms?	<input type="checkbox"/> Daily <input type="checkbox"/> Alternate Days <input type="checkbox"/> Weekly <input type="checkbox"/> When Soiled
101. Type of linen used	<input type="checkbox"/> Disposable <input type="checkbox"/> Reusable
<b>VII. BIOMEDICAL WASTE MANAGEMENT (BMW)</b>	
102. Availability of SOP for BMW management?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
103. Availability of agreement with CWTF	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
104. Are they following color codes bins in BMW management?	<input type="checkbox"/> Yes <input type="checkbox"/> No
105. Is there sufficient quantity color coded bags available?	<input type="checkbox"/> Yes <input type="checkbox"/> No
106. Are they disinfecting the waste before it is disposed?	<input type="checkbox"/> Yes <input type="checkbox"/> No
107. Method of disposing biomedical wastes?	<input type="checkbox"/> CWTF <input type="checkbox"/> Deep burial <input type="checkbox"/> Incineration
108. Disposal of sharps as per the standard protocol?	<input type="checkbox"/> Yes <input type="checkbox"/> No
109. Availability of biomedical waste trolley?	<input type="checkbox"/> Yes <input type="checkbox"/> No
110. Availability of dedicated BMW collection area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
111. BMW collected from isolation facility within 48hrs?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>VIII. ICU FACILITY</b>	
112. Are there any beds dedicated for COVID 19 infection?	<input type="checkbox"/> Yes <input type="checkbox"/> No
113. If Yes, Number of beds dedicated to COVID 19 cases?	
114. Is the distance between beds in ICU more than 1 meter?	<input type="checkbox"/> Yes <input type="checkbox"/> No



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115. Is the oxygen supply is by cylinder or central connection?	
116. Are there any separate Ventilators, nebulizers, Infusion pumps in ICU?	<input type="checkbox"/> Yes <input type="checkbox"/> No
117. Adequate supply of masks, ET tubes, PPE kits available at ICU?	<input type="checkbox"/> Yes <input type="checkbox"/> No
118. All ICU Staff received training in donning & doffing of PPE?	<input type="checkbox"/> Completed <input type="checkbox"/> In progress <input type="checkbox"/> Not started
119. Are there separate area for donning & doffing of PPE?	<input type="checkbox"/> Yes <input type="checkbox"/> No
120. Hand washing facility & hand sanitizer available at donning & doffing areas?	<input type="checkbox"/> Yes <input type="checkbox"/> No
<b>IX. OTHER ESSENTIAL SERVICES</b>	
121. Is there strategy available for optimizing the PPE supply	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
122. Are there any stock out experience for PPEs in the last year.	<input type="checkbox"/> Yes <input type="checkbox"/> No
123. Designated ambulance facility for transporting patients from isolation area?	<input type="checkbox"/> Yes <input type="checkbox"/> No
124. List of contact numbers of ambulance drivers displayed at isolation area?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
125. Ambulance staff trained in wearing PPE & and other Infection control practices?	<input type="checkbox"/> Yes <input type="checkbox"/> No
126. SOP for disinfecting ambulance after transporting confirmed case/dead body?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
127. Written protocol available for disposing dead bodies of confirmed cases?	<input type="checkbox"/> Available <input type="checkbox"/> In progress <input type="checkbox"/> Not started
128. Is there enough availability of body bags?	<input type="checkbox"/> Yes <input type="checkbox"/> No
129. Are the staff trained in handling dead bodies and wearing PPE?	<input type="checkbox"/> Yes <input type="checkbox"/> No

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