Employee’s State Insurance Corporation
Model Hospital, Jaipur (Rajasthan)

STANDARD OPERATING PROCEDURE
Infection Prevention and Control (IPC) Guidelines
for Isolation facility - COVID 19 (SARS-CoV2)

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Introduction:
- SARS CoV-2 is a new (novel) Coronavirus that can cause illness ranging from the common cold to fatal infection.
- The infection is spread through respiratory route i.e. respiratory droplets and direct human contact.
- Healthcare personnel (HCP) are at risk of infection through respiratory routes and direct contact with infectious patients.
- An isolation facility aims to control the airflow in the room so that the number of airborne infectious particles is reduced to a level that ensures cross-infection of other people within a healthcare facility is highly unlikely.

Scope:
- To be used by the ESIC Model Hospital, Jaipur, Rajasthan, for taking appropriate infection prevention & control (IPC) measures in the isolation/quarantine facility for COVID-19 patients.

Purpose:
- This document describes the information for infection prevention and control (IPC) measures to be adopted in Isolation facility for COVID-19 patients admitted in ESICMH, Jaipur.

Responsibilities:
- Medical Officer Incharge and Nursing Officer Incharge will be responsible for taking appropriate actions for fulfillment of the following guidelines in the facility.
- Designated Infection control nurse(s) will collect the data regarding proper functioning of the IPC measures.
- Infection control team will evaluate the collected data time to time for any improvement if required.

General outline for appropriate implementation of IPC measures:
- It should be initiated at the point of entry of the patient to hospital (i.e. OPD/Isolation facility).
- Standard precautions should always be applied in all areas include hand hygiene; use of PPE to avoid direct contact with patients’ blood, body fluids, secretions (including respiratory secretions) and non-intact skin.
- Prevention of needle-stick or sharps injury; safe waste management; cleaning and disinfection of equipment; and cleaning of the environment.
- Wear complete PPE and give the patient a triple layer surgical mask/N95 mask and direct patient to the isolation area through dedicated lift, clean the lift just after transportation.
- Perform hand hygiene frequently.
- Instruct all patients to cover nose and mouth during coughing or sneezing with tissue or flexed elbow for others.
- Keep at least 1 meter distance between patients.
- Patients with similar etiological diagnosis can be placed together, maintaining 1-2 meter distance as droplet precaution.
- When providing care in close contact with a patient, use complete PPE.
- Guide patients for Droplet and contact precautions to prevent direct or indirect transmission from contact with contaminated surfaces or equipment.
- Use PPE (triple layer surgical mask, eye protection, gloves and gown) when entering room and remove PPE when leaving. If possible, use either disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers).
- If equipment needs to be shared among patients, clean and disinfect between each patient use.
• Ensure that health care workers refrain from touching their eyes, nose, and mouth with potentially contaminated gloved or ungloved hands.
• Avoid contaminating environmental surfaces that are not directly related to patient care (e.g. door handles and light switches).
• Ensure adequate room ventilation. Avoid movement of patients or transport. Perform hand hygiene.

**Hand Hygiene:**
• *Hand hygiene remains one of the most important measures* for all persons for the prevention and control of majority of the respiratory viral infections -, including COVID-19.
• This can be performed with soap and water or alcohol-based hand rubs.
Patient’s consideration:
- In resource constrained settings, all positive COVID-19 cases can be cohorted in a ward with good ventilation.
- A minimum distance of 1 meter needs to be maintained between adjacent beds with no bed facing opposite to each other.
- All such patients need to wear a triple layer surgical mask/N95 mask at all times.
- Keep the patient’s personal belongings to a minimum. Keep water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene within the patient’s reach.
- Adequate hand hygiene should be maintained by patients.
- Non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff, and sphygmomanometer) should be dedicated for the patient, if possible.
- Don’t allow patients to leave the isolation area.
- Disposable and pre-packed food to be needs to be served to isolated people.
- All Beds were having disposable bed sheet that should be changed on daily basis.
- Personal toiletries/ towel/ blanket/ pillow with covers/electric kettle, room heater and water dispenser may be provided to each person depending on availability.
Isolation area specifications:
- It should be in a segregated area with separate entry/exit.
- The access to isolation ward should be through dedicated lift/guarded stairs.
- The nominated lift may be isolated from public and staff transit through access control measures and cleaned following transit of the infectious patient.
- A combination of nominated lifts, corridors and a bed transfer floor would assist in the movement of infectious patients through the hospital and minimise the risk of spread of infection.
- There should be double door entry with changing room and nursing station.
- There should be separate donning area, doffing area, store, temporary bio medical waste (BMW) collection area.
- Ensure appropriate hand washing facilities should be available.
- Remove all non-essential furniture and ensure that the remaining furniture is easy to clean, and does not conceal or retain dirt or moisture within or around it.
- Post signage on the door indicating that the space is an isolation area.
- This area may have standalone air-conditioning. These areas should not be a part of the central air-conditioning. If air-conditioning is not available negative pressure could also be created through putting up 3-4 exhaust fans driving air out of the room.
- Natural ventilation may be followed. The principle of natural ventilation is to allow and enhance the flow of outdoor air by natural forces such as wind and thermal buoyancy forces from one opening to another to achieve the desirable air change per hour.
- The isolation ward should have a separate toilet with proper cleaning and supplies.
- Visitors to the isolation facility should be restricted /disallowed. For unavoidable entries, they should use PPE according to the hospital guidance, and should be instructed on its proper use and in hand hygiene practices prior to entry into the isolation room/area.
- Corridors with frequent patient transport should be well-ventilated.
- Set up a telephone or other method of communication in the isolation room or area to enable patients, family members or visitors to communicate with health-care workers. This may reduce the number of times the workers need to don PPE to enter the room or area.
- All health staff involved in patient care should be well trained in the use of PPE.
- Facility should have uninterrupted running water supply.
- Only essential personnel should enter the room. Implement staffing policies to minimize the number of HCP who enter the room.
- Facilities should keep a log of all persons who care for or enter the rooms or care area of these patients.
- Keep a roster of all staff working in the isolation areas, for possible outbreak investigation and contact tracing.
- Doctors, nurses and paramedics posted to isolation facility need to be dedicated and not allowed to work in other patient-care areas.

Supply for IPC:
- **PPE:** Eye protection (visor or goggles), Face shield (provides eye, nose and mouth protection), Gloves (reusable vinyl or rubber gloves for environmental cleaning and latex single-use gloves for clinical care), Hair covers, Particulate respirators (N95, FFP2, or equivalent), Medical (surgical or procedure) masks, Gowns (single-use long-sleeved fluid-resistant or reusable non-fluid-resistant gowns) and aprons (plastic aprons, for use over non-fluid-resistant gowns if splashing is anticipated and if fluid-resistant gowns are not available)
- **Hand Hygiene:** Alcohol-based hand rub, Plain soap (liquid if possible, for washing hands in clean water), Clean single-use towels (e.g. paper towels)
- **Cleaning & disinfection:** 1% Sodium Hypochlorite, Alcohol (e.g. isopropyl 70% or ethyl alcohol 70%).
- **Bio Medical Waste (BMW) Management:** Sharps containers, Large plastic bags, Appropriate clinical waste bags, Linen bags, Collection container for used equipment.
- **Charts/documents:** Appropriate display of Standard protocols for hand hygiene and BMW management.

**Cleaning & Disinfection:**

**Hand Hygiene & PPE:**

- Wear Personal Protective Equipment (PPE) to wear while carrying out cleaning and disinfection works, including 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)
- Avoid touching the nose and mouth (goggles may help as they will prevent hands from touching eyes)
- 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.
- Eye goggles, if used, should be disinfected after each use, according to the manufacturer’s instructions.
- Hands should be washed with soap and water/alcohol-based hand rub immediately after each piece of PPE is removed, following completion of cleaning.

**Disinfectants:**

- Cleaning environmental surfaces with water and detergent or Lysol/Phenolic compound and applying commonly used hospital disinfectants (such as sodium hypochlorite) is an effective and sufficient procedure.
- Freshly prepared 1% Sodium Hypochlorite can be used as a disinfectant for cleaning and disinfection, ensure contact time of at least 10 minutes.
- 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.

**Protocol for cleaning:**

- Ensure that cleaning and disinfection procedures are followed consistently and correctly.
- Keep adequate separate equipment required for cleaning or disinfection inside the isolation room or area.
- 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.
- Environmental cleaning should be done at least twice daily and consist of damp dusting and floor mopping.
- Start cleaning from cleaner areas and proceed towards dirtier areas.
- Outward mopping technique should be done with separate mops for each area.
- Wipe down all accessible surfaces of walls as well as blinds with disinfectant or bleach solution.
- 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.
- 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.
- Disinfect buckets by soaking in disinfectant or bleach solution, or rinse in hot water before filling.
- 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.
- Discard all used PPE in a double-bagged biohazard bag, which should then be securely sealed, labeled and properly disposed-off, upon completion of the disinfection work.
- Staff should wash their hands with soap and water immediately after removing the PPE, and when cleaning and disinfection work is completed.
- The staff should be aware of the symptoms, and should report to their occupational health service if they develop symptoms.
- Cleaning chart and terminal cleaning checklist should be maintained.

### Cleaning Guidelines for Clinical Area

<table>
<thead>
<tr>
<th>Area/Item</th>
<th>Process for Disinfection</th>
<th>Method</th>
</tr>
</thead>
<tbody>
<tr>
<td>Isolation room</td>
<td>Detergent and 1% Sodium</td>
<td><em>(Three buckets, one with plain water and one with detergent solution; one bucket for 1% sodium hypochlorite)</em></td>
</tr>
<tr>
<td>Floors</td>
<td>Hypochlorite</td>
<td>➢ First mop the area with the warm water and detergent solution</td>
</tr>
<tr>
<td>Railings</td>
<td></td>
<td>➢ After mopping clean the mop in plain water and squeeze it</td>
</tr>
<tr>
<td>Ceiling /Walls</td>
<td>Detergent / 1% Sodium</td>
<td>➢ Mop area again using sodium hypochlorite 1% after drying the area</td>
</tr>
<tr>
<td>Doors &amp; Door Knobs</td>
<td>Hypochlorite</td>
<td>➢ Mop the floor starting at the far corner of the room and work towards the door.</td>
</tr>
<tr>
<td>Stethoscope</td>
<td>Alcohol based rub /Spirit Swab</td>
<td>➢ Damp dusting should be done in straight lines that overlap one another</td>
</tr>
<tr>
<td>Thermometer BP</td>
<td></td>
<td>➢ The doors are to be washed with a brush</td>
</tr>
<tr>
<td>Cuffs &amp; Covers</td>
<td></td>
<td>➢ Should be wiped with alcohol based rub/spirit swab before each patient contact</td>
</tr>
<tr>
<td>Injection &amp; Dressing Trolley</td>
<td>Detergent &amp; 70% Alcohol</td>
<td>➢ Preferably one thermometer for each patient</td>
</tr>
<tr>
<td>Refrigerators</td>
<td>Detergent &amp; Water</td>
<td>➢ Clean Daily with detergent &amp; water</td>
</tr>
<tr>
<td>Inside Cleaning: Weekly</td>
<td></td>
<td>➢ Disinfect after each use with 70% alcohol based reagent</td>
</tr>
<tr>
<td>Equipment</td>
<td>All Areas &amp; Surfaces of Equipment: 1% Sodium Hypochlorite</td>
<td>➢ Empty the fridge and store things appropriately</td>
</tr>
<tr>
<td></td>
<td>Sensitive Probes of Equipment: 70% Alcohol</td>
<td>➢ Defrost, decontaminate and clean with detergent</td>
</tr>
<tr>
<td></td>
<td></td>
<td>➢ Dry it properly and replace the things</td>
</tr>
<tr>
<td>Furniture</td>
<td>Detergent &amp; Water</td>
<td>➢ Place an appropriate container with a lid outside the door for equipment that requires disinfection or sterilization.</td>
</tr>
<tr>
<td>Mirrors &amp; Glass</td>
<td></td>
<td>➢ Need to be disinfected after every contact with patient</td>
</tr>
<tr>
<td>Sink</td>
<td>Detergent &amp; Water</td>
<td>➢ Damp dust with detergent</td>
</tr>
<tr>
<td>Telephone &amp; Light switches</td>
<td>Detergent &amp; Water</td>
<td>➢ Using warm water and a small quantity of detergent and a damp cloth</td>
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<tr>
<td></td>
<td></td>
<td>➢ wipe over the mirror and surroundings</td>
</tr>
<tr>
<td>Curtains</td>
<td>Detergent &amp; Water</td>
<td>➢ Clean with water and detergent for curtains</td>
</tr>
</tbody>
</table>
**ESIC Model Hospital, Jaipur (Rajasthan)**

**Infection Prevention and Control Guidelines for Isolation Facility**

**COVID 19 (SARS-CoV2) patients**

**SOP No:** 02/2020/CoVID19/IPC  
**Dated:** 20/04/2020  
**Prepared by:** Dr. Nilesh K. Sharma HOD (Microbiology)  
Dr. Harish Duttani HOD (Ophthalmology)  
**Approved by:** Dr. Balwar Dass  
Medical Superintendent

| Linen | Freshly prepared Sodium hypochlorite solution (01%)  
Soak soiled/contaminated linen in large bin for 30 minutes, then take out and send in double yellow bags to laundry for washing. |
|-------|---------------------------------------------------------------------------------------------------------------|
| Toilet Pot & Floor | 1% Sodium Hypochlorite  
Scrub with the recommended agents and the long handle angular brush.  
Rest all areas of Toilets like Taps & Fittings, Outside Sink, Soap Dispensers etc.  
Detergent & Water  
Scrub |

**Frequency of cleaning of surfaces**

- **Disinfection of High touch surfaces:** door knobs, refrigerator, over bed table, bedside commode, lavatory surfaces, tables, chairs, keyboards, telephone, call bells, bed rails, stair rails, light switches, wall areas around the toilet etc.  
  1-2 Hourly

- **Mopping of Low-touch surfaces:** walls, mirrors, etc.  
  2-3 Hourly

**Disinfection check list for critical areas (CCU, Cath Lab)**

**Disinfection check list for critical areas (CCU, Cath Lab)**

<table>
<thead>
<tr>
<th>AREA</th>
<th>MONTH</th>
<th>YEAR</th>
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<tbody>
<tr>
<td>FLOOR Mopping</td>
<td>1</td>
<td>2</td>
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<tr>
<td>A SHIFT</td>
<td>A.M.</td>
<td>P.M.</td>
</tr>
<tr>
<td>NIGHT SHIFT</td>
<td>6 P.M.</td>
<td>7 P.M.</td>
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</table>

- 1% Sodium Hypochlorite to be used for carozolization & floor mopping for patient with confirmed cases of COVID-19
- Spill management with 1% Sodium Hypochlorite as and when required

**Signature of Sister Incharge**

**Laundry services:**

- A separate room needs to be assigned to perform laundry services for cleaning of all the clothes and other washing related activities.
- Before laundering, all the washable items needs to be placed in 1% hypochlorite up to 30 minutes and later washed in detergent solution.
- All textiles (e.g. pillow linens, curtains, etc.) should be first treated with 1% hypochlorite spray and then, packed and sent to get washed in laundry using a hot-water cycle (90°C) and adding laundry detergent.
- Mattresses / pillows after spraying with 1% hypochlorite should be allowed to get dry (both sides) in bright sunlight for up to 3 hrs each.
Masks management

- Wearing a medical mask is one of the prevention measures to limit the spread of certain respiratory diseases, including COVID-19, is useful when worn by the persons suffering from the disease or contacts of the patients.
- If medical masks are worn, appropriate use and disposal is essential to ensure they are effective and to avoid any increase in risk of transmission associated with the incorrect use and disposal of masks.
- Respirators (e.g., N95, FFP2 or equivalent standard) have been used for an extended time during previous public health emergencies involving acute respiratory illness when PPE was in short supply. This refers to wearing the same respirator while caring for multiple patients who have the same diagnosis without removing it, and evidence indicates that respirators maintain their protection when used for extended periods. However, using one respirator for longer than 4 hours can lead to discomfort and should be avoided.
- The following information on correct use of medical masks derives from the practices in health-care settings:
  a. place mask carefully to cover mouth and nose and tie securely to minimise any gaps between the face and the mask;
  b. while in use, avoid touching the mask;
  c. remove the mask by using appropriate technique (i.e. do not touch the front but remove the lace from behind);
  d. after removal or whenever you inadvertently touch a used mask, clean hands by using an alcohol-based hand rub or soap and water if visibly soiled
  e. replace masks with a new clean, dry mask as soon as they become damp/humid;
  f. do not re-use single-use masks;
  g. discard single-use masks after each use and dispose-off them immediately upon removal.

Personal Protective Equipments (PPE) consideration:

- Get into scrubs or comfortable clothes, remove jewellery, ensure you had water and food and visited washrooms etc. before entering the isolation area.
- Collect all equipment needed;
- Make sure the presence of observer & checklist.
- Maintain a record for donning & doffing as Name of staff, Name of observer and Date.
- Check all PPE before starting donning.
- Effective use of PPE includes properly removing and disposing of contaminated PPE to prevent exposing both the wearer and other people to infection.
- Follow the donning & doffing procedure as per checklist provided only.

<table>
<thead>
<tr>
<th>PPE use in Isolation facility should be as follows:</th>
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<tbody>
<tr>
<td>Healthcare workers (Doctor/Nurses/Technician)</td>
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<tr>
<td>Cleaner/Sweeper/HA</td>
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</tbody>
</table>

PPE items:
1. **Gown**: clean, sterile, disposable. Ensure that gown is tied in back and provides full coverage.
2. **N-95 respirator**: A “fit-check” (also known as a “seal check”) should be performed before use.
3. **Goggles/Face shield**: All staff must wear goggles or face shield to protect mucous membranes from exposure due to splash or potential for hand contamination of eyes, nose or mouth.
4. **Gloves:** The 1st pair of gloves must be clean may not be sterile. The 2nd pair of gloves must be pulled over the sleeves/cuffs of gown.

**PPE Donning:**
- Wearing the PPE correctly will protect the healthcare worker from contamination.
- Perform hand hygiene with an alcohol-based hand rub (preferably when hands are not visibly soiled) or soap and water;

<table>
<thead>
<tr>
<th>Check list for steps of Donning (to be filled by observer)</th>
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<td><strong>S.No.</strong></td>
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<td>1</td>
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<td>3</td>
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<td>7</td>
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<td>8</td>
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</tbody>
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### 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
PPE Doffing:
- 1% hypochlorite solution should also sprayed in the PPE donning area and discard area twice a day on daily basis.
- Two chairs should be placed in donning area labeled DIRTY & CLEAN
- Observer must wear complete PPE in donning area.
- Remove all PPE in anteroom, if there is no anteroom, make sure that the PPE will not contaminate either the environment outside the isolation room or area, or other people.
- The removal (doffing) of the PPE is a critical and important step that needs to be carefully carried out in order to prevent self-contamination or self-inoculation with contaminated PPE or hands.
- Remove all the PPE (gloves, gown, face shield or goggles, N-95) in the dirty area as per the checklist.
- The gloves are removed first because they are considered a heavily contaminated item. Use of alcohol-based hand disinfectant should be considered before removing the gloves.
- When using a gown with back closure, observer should assist in unbuttoning the backside of the gown, then observer should change the gloves and hand hygiene be performed using an alcoholic solution.
- After the gown has been unbuttoned, the gown can be removed by the healthcare worker by grabbing the back of the gown and pulling it away from the body, keeping the contaminated front part inside the gown.
- Discard disposable items and Infectious waste in a Bio/Hazard bag. The interior is sprayed with 1% sodium hypochlorite. The bag is tied and interior is also decontaminated with 1% sodium hypochlorite and should be transported to Central Bio Medical Waste Management Storage area for transport to Common Bio Medical Waste Treatment Facility (CBWTF) for final treatment and disposal.
- Put reusable items in a dry (e.g. without any disinfectant solution) closed container.
- After finishing the donning process completely the person has to leave the donning area and directly go to the designated shower area. There the person can remove all the scrubs and take shower with soap and water.

Check list for steps of Doffing (to be filled by observer)

<table>
<thead>
<tr>
<th>S.No</th>
<th>Procedure</th>
<th>YES/NO</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
<td>Check for any leak or soiling in PPE before donning. (disinfect with alcohol wipes, if contaminated)</td>
<td></td>
</tr>
<tr>
<td>2</td>
<td>Disinfect the outer gloves and Remove shoe covers only by touching the outer surface (by sitting on DIRTY chair) - discard</td>
<td></td>
</tr>
<tr>
<td>3</td>
<td>Disinfect outer gloves and Remove outer gloves – discard</td>
<td></td>
</tr>
<tr>
<td>4</td>
<td>Disinfect inner gloves and Remove face shield – discard</td>
<td></td>
</tr>
<tr>
<td>5</td>
<td>Disinfect inner gloves and Remove hood by holding it from top</td>
<td></td>
</tr>
<tr>
<td>6</td>
<td>Disinfect inner gloves and unzip the coverall by holding suit at the arms, slide it off from the shoulder slightly and then pull the suit from the side of the waist, roll your arms out one by one, by touching inner surface of the suit carefully roll out each leg – roll suit from inner side and discard</td>
<td></td>
</tr>
<tr>
<td>7</td>
<td>Disinfect inner gloves and Remove carefully inner gloves - discard</td>
<td></td>
</tr>
<tr>
<td>8</td>
<td>Perform hand hygiene and Wear new pair for gloves</td>
<td></td>
</tr>
<tr>
<td>9</td>
<td>Sit on clean chair and clean your shoes by alcohol wipes</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>Perform hand hygiene and leave donning area while wipe your shoes on sodium hypochlorite soaked doormat at exit.</td>
<td></td>
</tr>
<tr>
<td>11</td>
<td>Just outside donning area, Stoop forward and remove mask by pulling out lower strip first and then upper one, without touching front of mask – discard</td>
<td></td>
</tr>
<tr>
<td>12</td>
<td>Disinfect gloves, remove them – discard</td>
<td></td>
</tr>
<tr>
<td>13</td>
<td>Perform hand hygiene, wear triple layer mask and go to shower area</td>
<td></td>
</tr>
</tbody>
</table>
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 goggle 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**
**How to Safely Remove Personal Protective Equipment (PPE)**

**Example 2**

Here is another way to safely remove PPE without contaminating your clothing, skin, or mucous membranes with potentially infectious materials. **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. **Gown and Gloves**
   - Gown front and sleeves and the outside of gloves are contaminated!
   - If your hands get contaminated during gown or glove removal, immediately wash your hands or use an alcohol-based hand sanitizer.
   - Grasp the gown in the front and pull away from your body so that the ties break, touching outside of gown only with gloved hands.
   - While removing the gown, fold or roll the gown inside-out into a bundle.
   - As you are removing the gown, peel off your gloves at the same time, only touching the inside of the gloves and gown with your bare hands. Place the gown and gloves into 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 and without touching the front of the goggles or face shield.
   - If the item is reusable, place in designated receptacle for reprocessing. Otherwise, discard in a waste container.

3. **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.

4. **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**

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**ESIC Model Hospital, Jaipur (Rajasthan)**  **Infection Prevention and Control Guidelines for Isolation Facility COVID-19 (SARS-CoV2) Patients**

**SOP No:** 02/2020/CoV19/IPC  **Prepared by:** Dr. Dileep K. Sharma HOD (Microbiology)

**Dated:** 20/04/2020  **Dr. Harish Dulani HOD (Ophthalmology)**

**Approved by:** Dr. Banarsi Dass  **Medical Superintendent**

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**CDC**
Special consideration should be given during gloves doffing, as per following steps –

1) Pinching and holding the glove (with the other gloved hand) between the palm and wrist area,
2) Peeling the glove away from the wrist
3) Until it turns inside out covering the fingers.
4) With the now half-gloved hand, pinch and hold the fully gloved hand between the palm and wrist,
5) Peel the glove away from the wrist
6) Until it turns inside out and covers the fingers. Now that both hands are half-gloved,
7) Remove the glove from one hand completely by grabbing the inside part of the glove and peeling it away from the hand, and do the same for the remaining half-gloved hand using the non-gloved hand, while always grabbing the inside part of the glove.
8) Dispose of the gloves in a biohazard bin.
Bio-Medical Waste (BMW) Management:
- Workers involved in handling and collection of COVID-19 biomedical waste shall be provided with adequate PPEs including three layer masks, splash proof aprons/gowns, nitrile gloves, gum boots and safety goggles.
- Do not allow any worker showing symptoms of illness to work at the facility.
- BMW should be managed as per guidelines provided by Central Pollution Control Board (March 25, 2020) same as for isolation wards.
- Keep separate color coded bins/bags/containers and maintain proper segregation of waste as per BMWM Rules, 2016 as amended and CPCB guidelines for implementation of BMWM Management Rules.
- As precaution double layered bags (using 2 bags) should be used for collection of waste so as to ensure adequate strength and no-leaks.
- Collect and store biomedical waste separately prior to handing over the same CBWTF. Use a dedicated collection bin labelled as "COVID-19" to store COVID-19 waste and keep separately in temporary storage room prior to handing over to authorized staff of CBWTF and can also be lifted directly from collection/Temporary storage area into CBWTF collection van.
- In addition to mandatory labelling, bags/containers used for collecting biomedical waste, should be labelled as "COVID-19 Waste". This marking would enable CBWTFs to identify the waste easily for priority treatment and disposal immediately upon the receipt.
- General waste not having contamination should be disposed as solid waste as per SWM Rules, 2016;
- Maintain separate record of waste generated from COVID-19 isolation wards.
- Use dedicated trolleys and collection bins in COVID-19 isolation wards. A label "COVID-19 Waste" to be pasted on these items also.
- The (inner and outer) surface of containers/bins/trolleys used for storage of COVID-19 waste should be disinfected with 1% sodium hypochlorite solution daily.
- Depute dedicated sanitation workers separately for biomedical waste and general solid waste so that waste can be collected and transferred timely to temporary waste storage area.
- Sanitary Inspectors/Facility Managers Operator shall ensure regular sanitization of workers involved in handling and collection of biomedical waste.
- In donning area, use black bin for general waste generated during donning.
- In doffing area, keep three red bins and label them as mentioned below:
- In all other area keep all three dust bins as per guidelines.

<table>
<thead>
<tr>
<th>Label</th>
<th>PPEs to be disposed off</th>
<th>Local treatment &amp; transport</th>
</tr>
</thead>
<tbody>
<tr>
<td>Red bin -01</td>
<td>Goggles/Face shield</td>
<td>0.5% sodium hypochlorite freshly prepared solution/70% alcohol</td>
</tr>
<tr>
<td>Red Bin -02</td>
<td>N-95 masks and coveralls (white)</td>
<td>Collect in double bag and transport to local storage twice daily</td>
</tr>
<tr>
<td>Red bin -03</td>
<td>Disposable PPE</td>
<td>Hand over to Common Biomedical Waste Treatment Facility (CBWTF)</td>
</tr>
</tbody>
</table>
ESIC Model Hospital, Jaipur (Rajasthan)  

Infection Prevention and Control Guidelines for Isolation Facility  

**COVID 19 (SARS-CoV2) patients**

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**Prepared by:**  
Dr. Dileep K. Sharmi HOD (Microbiology)  
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**References:**

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