



COVID 19

Guidelines for Infection Prevention and Control

Infection Control Committee
STNM Hospital, Sochakgang
Gangtok Sikkim

Version: 01

Passed by Technical Committee
for COVID-19 control

The current guideline provides information regarding Standard precautions, Personal protective equipment, Environmental Cleaning and Biomedical waste management with regards to SARS CoV 2

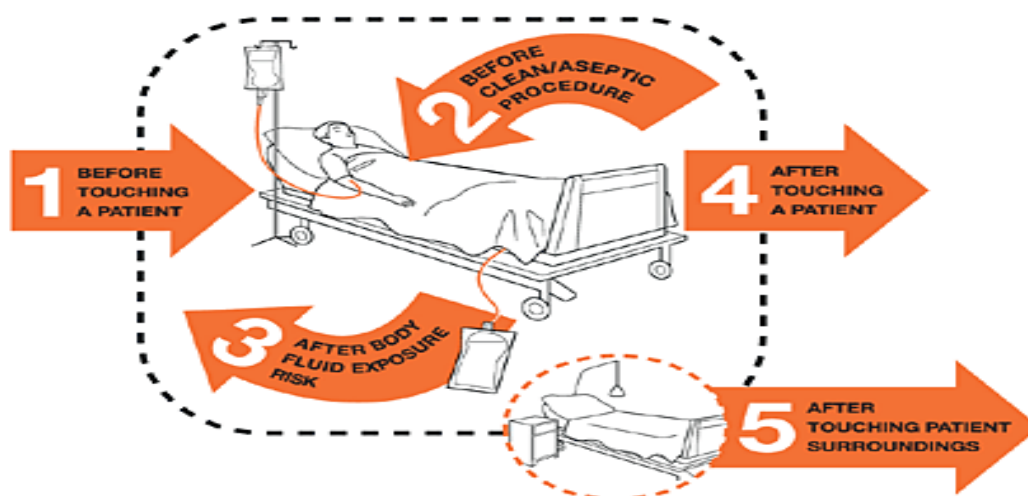
Standard precautions are to be applied for all patients. Standard precautions include, Hand and respiratory hygiene, Use of appropriate personal protective equipment (PPE) according to a risk assessment, Injection safety practices, safe waste management, proper linens, environmental cleaning, and sterilization of patient-care equipment.

Hand Hygiene

- Hand Hygiene is the most effective method in controlling the spread of COVID 19. It can be performed by washing hands with Soap&Water (40 – 50 secs) / Alcohol hand Rubs (20 - 30 secs).



- Know the 5 moments of Hands Hygiene and perform them at all opportunity



Moment-1 and 4 : Before and after touching a patient	Moment-2 and 3: Before and after aseptic procedure/body fluid exposure	Moment-5: After touching patient surroundings
<p>Before and after - eg</p> <ul style="list-style-type: none"> • Taking pulse, blood pressure Auscultation and palpation • Shaking hands • Helping a patient to move around • Applying oxygen mask • Giving physiotherapy • Recording ECG • Use of gloves 	<p>Before and after - eg</p> <ul style="list-style-type: none"> • Oral/dental care • Aspiration of secretions or accessing draining system • Skin lesion care, wound dressing • Giving injection • Drawing of blood or sterile fluid • Handling an invasive device (catheter, central line, ET tube) • Clearing up urines, faeces, vomit, • Handling bandages, napkin etc • Instilling eye drops • Moving from a contaminated body site to another body site during care of the same patient 	<p>After contact - eg</p> <ul style="list-style-type: none"> • Handling the case sheet • Medical equipment in the immediate vicinity of the patient • Bed or bed rail • Changing bed linen • Decanting urobag

Personal protective equipment

- Wear Triple layer mask while handling patients – Respiratory symptoms/ Suspected
- N-95 respirator including gloves, long sleeved non-permeable gown, eye protection/ face shield- while collecting samples for COVID testing & performing aerosol generating procedures like – Intubation, Non invasive ventilation, Tracheostomy, Cardiopulmonary resuscitation, Manual ventilation before intubation, Bronchoscopy
- **Minimise need for PPE**
 - Restrict HCWs from entering the Corona ward if not involved in direct care.
 - Consider bundling activities to minimise the number of times a room is entered (e.g., check vital signs during medication administration or have food delivered by HCW while they are performing other care)
- Medical mask can be used for 4-6 hours and N 95 Respirators for 6-8 hrs.

Table 1. Recommended type of personal protective equipment (PPE) to be used in the context of COVID-19 disease, according to the setting, personnel and type of activity^a

Setting	Target personnel or patients	Activity	Type of PPE or procedure
Healthcare facilities			
Inpatient facilities			
Patient room	Healthcare workers	Providing direct care to COVID-19 patients.	Medical mask Gown Gloves Eye protection (goggles or face shield).
		Aerosol-generating procedures performed on COVID-19 patients.	Respirator N95 or FFP2 standard, or equivalent. Gown Gloves Eye protection Apron
	Cleaners	Entering the room of COVID-19 patients.	Medical mask Gown Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work shoes
	Visitors ^b	Entering the room of a COVID-19 patient	Medical mask Gown Gloves
Other areas of patient transit (e.g., wards, corridors).	All staff, including healthcare workers.	Any activity that does not involve contact with COVID-19 patients.	No PPE required

WHO interim guidance document for Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19)




Step 1
Wash your hands before putting on the mask.




Step 2
Select an N95 mask that fits you well. It is available in different adult sizes and models*.




Step 3
Hold the mask in your hand and place it firmly over your nose, mouth and chin.



Step 4
First, stretch and position bottom band under your ears. Then, stretch and position top band high at the back of your head.



Step 5
Press the thin metal wire along the upper edge gently against the bridge of your nose so that the mask fits nicely on your face.



Step 6
Perform a fit check by breathing in and out. While breathing out, check for air leakage around your face.



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

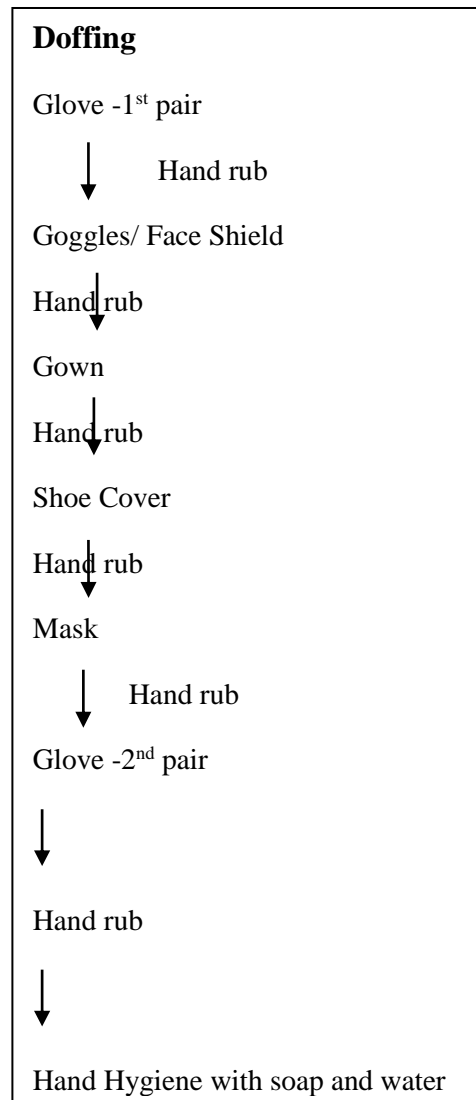
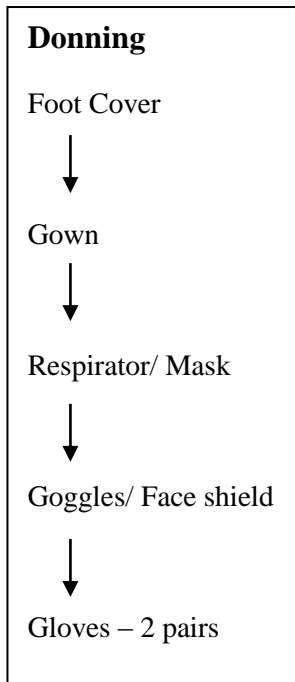
- Safety Goggles
- Hair in Ponytail
- Gloves
- Long-sleeved, Fastened Coat
- Long Pants
- Enclosed Shoes

Labels on diagram: Goggles or disposable full-face shield, NIOSH-approved N95 filtering facepiece respirator or higher, Gown, One pair of clean, nonsterile gloves, No shoe or boot covers.

For more information: www.cdc.gov/COVID19

- Always clean your hands before and after wearing PPE
- Always remove immediately after completing the task and/or leaving the patient care area
- NEVER reuse disposable PPE

Donning and Doffing sequence



Environmental Cleaning

Due to the potential survival of the virus in the environment for several days, the premises and areas potentially contaminated with the SARS CoV-2 should be cleaned before their re-use. Transfer of microorganisms from environmental surfaces to patients is mostly via hand contact with the surface

- Clean environment and surfaces with detergent and water and disinfect using 70% alcohol (Metallic surfaces)&1% Sodium hypochlorite (Non metallic surfaces) or 5% Phenolic solution- contact time 30minutes.

- Preparation of 1% and 0.5% Hypochlorite solution

When Stock solution of Sodium Hypochlorite is 4%

Required Hypochlorite Concentration	Dilution protocol
1% Hypochlorite	1 part Hypochlorite + 3 parts Water
0.5% Hypochlorite	1 part Hypochlorite + 7 parts Water

When Stock Solution of Sodium Hypochlorite is between 4% - 6%

Required Hypochlorite Concentration	Dilution Protocol
1% Hypochlorite	1 part Hypochlorite + 4 parts Water
0.5% Hypochlorite	1 part Hypochlorite + 9 parts Water

Formula for Volume of Sodium Hypochlorite (Stock)required

Required Concentration / Known Concentration x Required Volume

Eg: Available stock sol of Hypochlorite is 4%, Required Con is 0.1% and required volume of Disinfectant is 1 litre or 1000ml.

$0.1 / 4 \times 1000 = 25$. So 25 ml of hypochlorite to be added into 975 ml of water.

From Chlorine Powder (Bleach)

Required Concentration	Dilution Protocol
1%	2 table spoons of Chlorine powder in 1 litre of water
0.5%	1 table spoon of Chlorine powder in 1 litre of water
0.1%	½ Table spoon in 1 litres of water

- Floor and railing cleaning with Three bucket system-
 - 1st- Plain water
 - 2nd- Detergent
 - 3rd- 1% Sodium hypochlorite
 - Mop the area with water and detergent solution
 - After mopping clean the mop in plain water and squeeze
 - Mop area again using 1% sodium hypochlorite after drying the area
 - Mop the floor starting at the far corner of the room and towards the door.
- Frequency of cleaning:
 - **High touch surfaces** – Disinfection of high touch surfaces like-
 - Bed rails
 - Tray table
 - Bedside table
 - Door handles
 - IV poles
 - Blood-pressure cuff
 - Wall area around the toilet in patient room
 - Edge of privacy curtain
 - Mobile and telephone
 - Computer, mouse, key board
 - Lift buttons
 - Hand rails (stair case)
 - Side rails of stretches Chair arms (including wheel chairs)
 - Switches,

Should be done every 3-4 hours

Low touch surfaces – For low touch surfaces (walls/ mirrors) mopping/ wiping should be done once daily.

PPE for Cleaning staff

- Wear heavy duty/disposable gloves, disposable long-sleeved gowns, eye goggles or a face shield, and a medical mask (please see the PPE document for details)
- **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

Precautions to take after completing the clean-up and disinfection:

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

Area	Items Agent	Process Method	Procedure
Stethoscope	Alcohol-based rub/Spirit swab	Cleaning	<ul style="list-style-type: none">○ Should be cleaned with detergent and water○ Should be wiped with alcohol based rub/spirit swab before each patient contact
BP cuffs & covers	Detergent Hot water	Washing	<ul style="list-style-type: none">○ Cuffs should be wiped with alcohol-based

			disinfectant and regular laundering is recommended for the cover
Thermometer	Detergent and water Alcohol rub Individual thermometer holder	Cleaning	<ul style="list-style-type: none"> ○ Should be stored dry in individual holder ○ Clean with detergent and tepid water and wipe with alcohol rub in between patient use ○ Store in individual holder inverted ○ Preferably one thermometer for each patient
Injection and dressing trolley	Detergent and water Duster Disinfectant (70% alcohol)	Cleaning	<ul style="list-style-type: none"> ○ To be cleaned daily with detergent and water ○ After each use should be wiped with disinfectant
Ventilator Monitor Defibrillator USG Machine	Detergent followed by Alcohol		<ul style="list-style-type: none"> ○ Disinfectant will work only when detergent removes the organic matter

Cleaning of the Ambulance

- Staff have to wear **N95 respirator**, Gloves, Long sleeved fluid repellent gown and goggles/face shield.
- **Driver** also wears N 95 mask
- **Cleaning and Housekeeping** staff – wear 3 layered mask and heavy duty gloves while decontaminating the ambulance.
- **Cleaning and Disinfection** of the surfaces and equipment is done after and in between transport of patients with suspected COVID 19 with either 70% alcohol/ 1% sodium hypochlorite, depending on the material.
- The patient and attendant maybe provided with a medical mask

Mobiles & Laptop Infection Control

- **Avoid bringing to hospital if not absolute necessary**
- Clean front and back surface
- **Alcohol wipes** - Twice per shift And also before leaving workplace
- **Switch off during wiping.**
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Terminal disinfection (After Corona patient discharge or transfer or death)

- Clean with Soap and water followed by disinfection with 1 % sodiumhypochlorite.
- All surfaces and floor including walls, ceiling, toilet etc that were in contact with patient or may have become contaminated during patient care followed
- **Do not spray or fog occupied or unoccupied rooms with disinfectant**
- Wear appropriate PPE - heavy duty gloves, mask, eye protection (goggles/face shield), long-sleeved gown, apron (if gown is not fluid resistant), and boots or closed shoes

Cleaning of dishes and eating utensils used by a Corona infected patient

- No special precautions other than standard precautions
- Wear gloves when handling patient trays, dishes and utensils
- Wash with soap / detergent, and warm water.

Cleaning of soiled bedding and linen of COVID 19 patient

- Individuals/staff dealing with soiled bedding, towels and clothes from patients with COVID-19 should:

- Wear appropriate PPE – heavy duty gloves, mask, eye protection (goggles/face shield), long-sleeved gown, apron (if gown is not fluid resistant), and boots or closed shoes
- **Never carry soiled linen against body**; place soiled linen in a leak-proof bag or bucket
- Hand hygiene and PPE (surgical mask, heavy duty gloves, plastic apron, boots)
- Dedicated laundry area should be there for cleaning soiled bedding, towels and clothes from patients with COVID-19
- Soiled linen should be placed in clearly labelled, **leak-proof bags or containers**, carefully removing any solid excrement and putting in covered bucket to dispose of in the toilet or latrine
- **Washing machine** - Wash at 60-90°C with laundry detergent followed by soaking in 0.1% Sodium Hypochlorite for approximately 30 minutes and dried
- **If no machine washing** : Soak in hot water with soap/detergent in a large drum o Use a stick to stir and avoid splashing . Empty the drum and soak linen in 0.5% sodium hypochlorite for approx 30 minutes . Rinse with clean water and let linen dry fully in the sunlight

Bio Medical Waste Management - COVID-19 Isolation wards:

Healthcare Facilities having isolation wards for COVID-19 patients need to follow these steps to ensure safe handling and disposal of biomedical waste generated during treatment;

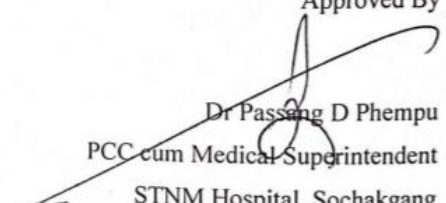
- Keep separate colour coded bins/bags/containers in wards and maintain proper segregation of waste as per BMWM Rules, 2016 - As precaution **double layered bags** (using 2 bags) should be used for collection of waste from COVID-19 isolation wards
- Collect and store biomedical waste separately in dedicated collection bins labelled as “COVID-19” to store COVID-19 waste
- In addition to mandatory labelling, bags/containers used for collecting biomedical waste from COVID-19 wards, should be labelled as “**COVID-19 Waste**”.
- 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.

Reference

- 1) WHO Infection prevention and control during health care when COVID-19 is suspected. Interim Guidance. 19th March 2020
- 2) Guidelines for disinfection of quarantine facility (for COVID-19). NCDC
- 3) COVID-19 Preparedness Document AIIMS, New Delhi Version 1.0 27th March, 2020
- 4) COVID 19 Infection Prevention & Control Standard Operating Procedure JIPMER. Version 1
- 5) Guidelines for Handling, Treatment and Disposal of Waste Generated during Treatment/Diagnosis/ Quarantine of COVID-19 Patients. Central Pollution Control Board, Delhi. Rev 1

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