

In the face of the present pandemic and Lockdown situation, easy access to personal protective equipment (PPE) in the market has become increasingly difficult. Health care facilities have to make strategies to conserve their supplies.

Minimal and Rational use of PPE may help in unwanted use of PPE. Decontamination and reuse of PPEs may provide another solution by extending existing on-hand supplies.

The methods available for disinfection are only considered as extraordinary last-resort methods in the event of imminent shortages of PPE.

The Infection Control Committee has adopted WHO's recommendation of Reprocessing of N95 Mask, Gowns and Goggles/ Face Shield.

“WHO stresses that these temporary measures should be avoided as much as possible when caring for severe or critically ill COVID-19 patients, and for patients with known co-infections of multi-drug resistant or other organisms transmitted by contact (e.g. Klebsiella pneumoniae) or droplets (e.g. influenza virus) “.

Minimize the need for PPE

- Designate dedicated health care workers/teams only for COVID-19 patient care
- Restrict visitors to the Corona ward
- Restrict HCWs from entering the Corona ward if they are not involved in direct care.
- Consider bundling activities to minimize the number of times a room is entered (e.g., check vital signs during medication administration or have food delivered by HCWs while they are performing other care) and plan which activities will be performed at the bedside.

Rational Use of PPE

Ensure PPE use is rationalized and appropriate PPE should be used based on the risk of exposure; will vary according to the setting and type of personnel and activity. The overuse or misuse of PPE will have a further impact on supply shortages.

Recommended use of Personal Protective Equipment for Various Areas of the Hospital

Location	Activity	Risk	Mask	Gloves	Gown / Cover all	Goggles/ Face shield	Head Cover	Shoe Cover
FOR COVID SET UP								
COVID ICU	Any one who enters	High	N-95	✓	✓	✓	✓	✓
COVID ICU	Outside/ Corridor	Low	3-ply	-	-	-	-	-
COVID OT	If Operating	High	N-95	✓	✓	✓	✓	✓
COVID OT	Outside	Low	3-ply	-	-	-	-	-
Isolation room	Near patient + Aerosol generating procedure	High	N-95	✓	✓	✓	✓	✓
Isolation room	Outside/ Corridor	Low	3-ply	-	-	-	-	-
FLU Clinic/ Ward/ Triage	Examining SARI Suspected patient	High	N-95	✓	✓	✓	✓	✓
FLU Clinic/ Ward/ Triage	Examining Stable COVID suspected pt	Moderate	3-ply	✓	✓	✓	✓	✓
FLU Clinic/ Ward/ Triage	History Taking/ Interacting/ Temp Recording	Moderate-Low	3-ply	-	-	-	-	-
Any COVID Setup	House keeping staff	Moderate	3-ply	✓	✓	✓	✓	✓
COVID Lab	Molecular/ CB NAAT	High	N-95	✓	✓	✓	✓	✓
COVID Lab	Specimen transport	Moderate	3-ply	✓	-	-	-	-
Biochemistry Lab	Routine test/serological and special tests using Semi autoanalyser/ autoanalyser	Moderate to High	N 95	✓	Plastic Aprons	✓	✓	✓
Pathology lab	Routine/Blood Stool/Tissue Grossing	Moderate to High	N95	✓	Plastic Apron	✓	✓	✓

Microbiology Lab	Routine Serology	Moderate to High	N95	✓	Plastic Apron	✓	✓	✓
In House transfer/ Ambulance	SARI patient/ On Ventilator	High	N 95	✓	✓	✓	✓	✓
In House Transfer/ Ambulance	Stable patient	Moderate	3-ply	✓	✓	✓	✓	✓
Ambulance	Driver, not involved in patient transfer	Low	3-ply	-	-	-	-	-
Laundry	Linen transport/	Moderate-Low	3-ply	✓	-	-	-	-
Laundry	Linen cleaning and disinfection	High	N95	✓	✓	✓	✓	✓
Laundry	Folding and issuing linen	Low	3-ply	-	-	-	-	-
CSSD	Transfer of PPE for Reuse	Moderate	3-ply	✓	-	-	-	-
CSSD	Decontamination of PPE	High	N 95	✓	✓	✓	✓	✓
Dead Body Management	Packaging or transporting	Moderate	3 ply	✓	✓	✓	✓	✓
Dead Body Management	Mortuary care	Moderate	3 ply	✓	✓	✓	✓	✓
Dead Body Management	Autopsy Room	High	N 95	✓	✓	✓	✓	✓
Dead Body Management	Family members handling the body	Moderate	3 ply	✓	✓	✓	✓	✓
NON COVID SET UP								
ICU, WARD, OT, Emergency	Aerosol generating procedure	Moderate	N 95	✓	✓	✓	✓	✓
OPD, Emergency	Direct contact with any patients	Low	3 ply	-	-	-	-	-
Administrative Area	Reception area/ Corridors/ Canteen	Low	3-ply	-	-	-	-	-

N 95 MASKS

1) Extended Use

Surgical Mask and N95 respirators can be used without removing up to **6 hours and 8 hours respectively**, when caring for a cohort of Suspected/COVID-19 patients. To be changed if visibly soiled or wet. **Preferable to be worn with a Face shield.**

Risk- Extended use of respirators may increase risk of contamination with COVID-19 virus and other pathogens

Feasible in Flu Clinics/ Flu Wards/ Isolation Wards/Triage.

Surgical Masks and Gloves are not to be Re used.

Personnel Reprocessing/Cleaning/Sterilising the equipments should wear – Plastic gown/ face shield/ Surgical mask/ gloves

2) Reprocessing and Reuse

Plasma sterilisation by Vaporized Hydrogen Peroxide (VHP) is recommended method.

- The HCW after doffing the N95 mask, should place the mask in the recommended Red Bag/ Bin marked REUSE without touching the outer surface.
- The CSSD staff should wear **full-PPE** during packaging into Tyvek pouches and while sterilisation
- After Plasma sterilisation, keep the mask outside for 45min to 1 hour before re-using
- Maximum allowable reprocessing cycle is **TWO** times. That means each N95 can be used maximum for three times with two times of reprocessing in-between

GOWNS AND COVERALLS

Reprocessing and Reuse

- Discard the gowns/ coveralls in red bins containing **0.1% hypochlorite** labelled REUSE.
- Drain the fluid after **30 minutes** and transport to Laundry.
- Washing by machine with **warm water (60-90°C)** and laundry detergent is recommended for reprocessing of the gown. If machine washing is not possible, gowns can be soaked in hot water and soap in a large drum, using a stick to. Stir, avoiding splashing.
- **Then soak in 0.5% chlorine for approximately 30 minutes.**
- Rinse with clean water and let it dry fully in the Dryer/ sunlight

GOGGLES AND FACE SHIELD

Reprocessing and Re-Use

- Used face shields/goggles should be discarded in a separate clearly labelled RED bins/bags as REUSE.
- Immerse face shields and goggles in buckets of freshly prepared **0.1 % sodium hypochlorite solution for 30 minutes.**
- Dry on a flat surface
- Only after the surface is completely dry, wipe all surfaces with **70% alcohol** using a clean pad/gauge
- Face shields/goggles can be used once dry.
- Place these in a plastic cover

References

- 1) <https://www.cdc.gov/coronavirus/2019-ncov/hcp/ppe-strategy/decontamination-reuse-respirators.html> accessed on 12/04/2020
- 2) Rational use of personal protective equipment for coronavirus disease (COVID-19) and considerations during severe shortages: interim guidance. 6th April 2020. WHO
- 3) All India Institute of Medical Sciences New Delhi Guidelines for Re-Use of Personal Protective Equipment. HICC, A.I.I.M.S., New Delhi; Version 1.0: 7th April 2020
- 4) COVID-19 Infection Prevention & Control Standard Operating Procedure. Hospital Infection Control Committee, JIPMER. Version 2, 09.04.2020

Approved
21/4/2020
D. Passang D. Phempu, M.S
PCC (C) Medical Superintendent
New SPM Multi Speciality Hospital
Socnagang Gangtok