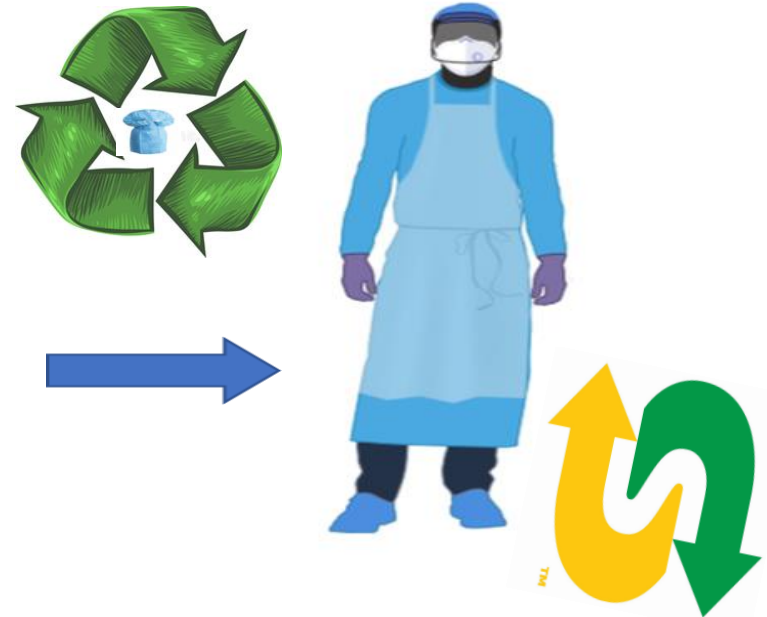


Aerosol Generating Procedures (AGP)

- Bilevel Positive Airway Pressure (BiPAP)
- Bronchoscopy
- Sputum induction
- Intubation and extubation
- Cardiopulmonary resuscitation
- Open suctioning of airways
- Nasopharyngeal and Oropharyngeal Swab
- If performing AGPs, use a combination of measures to reduce exposure:
 - Wear N95 masks
 - Wear eye protection (i.e. goggles or a face shield).
 - Wear a clean, non-sterile, long-sleeved gown and gloves
 - Wear an impermeable apron for some procedures with expected high fluid volumes that might penetrate the gown.

Extend use of Blue Gown

- **Extended use of Blue Gown:** wearing the same blue gown for repeated close contact encounters with several patients, without removing the gown in between patient encounters.
- Consideration can be made to extend the use of isolation gowns (plastic apron on top of Blue disposable gown).
- Plastic apron and gloves must be removed after each patient contact and perform hand hygiene.
- If the blue gown becomes visibly soiled, it must be removed and discarded.



Extended/Reuse and Storage of N-95 mask

- **Extended use of N-95 Mask:** wearing the same N-95 respirator for repeated close contact encounters with several patients, without removing the respirator between patient encounters. The N95 mask is used for the whole shift per staff.
- **Reuse:** refers to the practice of using the same N95 respirator for multiple encounters with patients but removing it after each encounter.
 - Hand hygiene is done before and after removal of respirator.
 - Upon removal for storage, doff while holding the straps only and avoiding touching the face of the mask.
 - Cover the N-95 mask with paper towels before putting inside a breathable paper bag.
 - Upon donning a used N-95 mask, wear clean gloves and perform seal check.
 - Dispose gloves and perform hand hygiene.



STEPS TO TAKE IN CLEANING AND DISINFECTION OF EYE GOGGLES AND FACE SHIELD AFTER DUTY:

- Do hand hygiene
- Wear new pairs of clean gloves
- While wearing clean gloves, carefully wipe the *inside*, followed by the *outside* of the face shield or goggles using alcohol wipes.
- Then, repeat step 3 again.
- Fully dry (air dry) store in plastic bag
- Remove gloves and perform hand hygiene
- Discard if already torn or broken. (Give it to the unit-in-charge for replacement)



Version: 3

Corporate Infection Prevention and Control Program Infection Prevention and Control Protocol for Wearing PPE –HMC

Rational use of PPE during outbreak of COVID-19 at HMC

This document summarizes the infection prevention and control recommendations for the rational use of personal protective equipment (PPE) in healthcare setting. In this context, PPE includes gloves, medical masks, goggles or a face shield, and gowns, as well as for specific procedures, respirators (i.e., N95). This document is intended for those who are involved in distributing and managing PPE, as well as public health authorities and individuals in healthcare settings, and it aims to provide information about when PPE use is most appropriate. WHO, CDC, and Gov.Uk are our reference to update these recommendations as new information becomes available.

Definitions:

Extended use of N95 Mask: Refers to the practice of wearing the same N95 respirator for repeated close contact encounters with several patients, without removing the respirator between patient encounters. Can be used when multiple patients are infected with the same respiratory pathogen and patients are placed in together in hospital wards.

Reuse N95 Mask: using same N95 Mask for multiple encounters with patients but removing it after each encounter. The N95 mask is stored in between encounters to be put on again prior to next encounter with patient. **Very important to label container used for storing mask to reduce accidental usage of another person's respirator**

Phase.1 The current situation, the following must be applied

1. Surgical Mask

- 1.1 Facemasks should be provided only to symptomatic patients upon check in at entry points. (See the attached table)
- 1.2 Minimize the use of PPE for the transport staff wearing **surgical mask and Glove.**
- 1.3 Keep PPEs in centralized locations with individual's infection control departments responsible for distribution.
- 1.4 Extended use of surgical mask is the practice of wearing the same facemask for repeated close contact encounters with several different patients in same unit, without removing the facemask between patient encounters.
 - 1.4.1 The facemask should be removed and discarded if soiled, damaged, or hard to breathe through.

- 1.4.2 Health Care Personnel (HCP) must take care not to touch their facemask. If they touch or adjust their facemask they must immediately perform hand hygiene.
- 1.4.3 HCP should leave the patient care area if they need to remove the facemask.

2. N95 mask

- 2.1 Extending wear of N95 mask up to 5 Hr /day from patient to patient with the clinician changing gown and gloves between patients.
- 2.2 Limiting use of N95 masks to only procedures where respiratory secretions can be aerosolized, including intubation for PUI or COVID+ individuals. Use loop surgical masks for all other encounters

3. Gowns:

- 3.1 Extended use of isolation gowns:
 - 3.1.1 Consideration can be made to extend the use of isolation gowns (plastic apron on top of Blue disposable gown) plastic apron must be removed after each patient
 - 3.1.2 If the gown becomes visibly soiled, it must be removed and discarded
- 3.2 Blue Gowns should be prioritized for the following activities:
 - 3.2.1 During care activities where splashes and sprays are anticipated, which typically includes aerosol generating procedures
 - 3.2.2 During the following high-contact patient care activities that provide opportunities for transfer of pathogens to the hands and clothing of healthcare providers such as Dressing, bathing/showering, transferring, providing hygiene, changing linens, changing briefs or assisting with toileting, device care or use, wound care
 - 3.2.3 Green gown is recommended for the house keepers, nursing Aids, maintenance workers, visiting COVID-19 units but not entering to the patient rooms.

4. Eye Google:

- 4.1 Can be worn for the entire session, doesn't need to be changed between patients as long as it is safe to do so

Phase 2: When the weekly consumption is double from the current usage .The following will be applied:

2.1 Consider using green gown:

2.2. Alternatives that have not been evaluated as effective such as Disposable laboratory coats, Reusable (washable) patient gowns, Reusable (washable) laboratory coats

2.3 Use physical barriers to reduce exposure to the COVID-19 virus, such as glass or plastic windows. This approach can be implemented in areas of the health care setting where patients will first present, such as triage areas, the registration desk at the emergency department, or at the pharmacy window where medication is collected

2.3 Sterilization of PPE with UV light or a 3 hour ozone disinfection (however evidence of the ability of these techniques to eliminate the virus and maintain PPE effectiveness is not yet determined).

2.4 Goggles and face shields

2.4.1 Shift eye protection supplies from disposable to re-usable devices (i.e., goggles and reusable face shields):

2.4.1.1 Ensure appropriate cleaning and disinfection between users if goggles or reusable face shields are used. Eye protection should be removed and reprocessed if it becomes visibly soiled or difficult to see through.

2.4.1.2 If a disposable face shield is reprocessed, it should be dedicated to one HCP (labelled with personal information) and reprocessed whenever it is visibly soiled or removed (e.g., when leaving the isolation area) prior to putting it back on.

2.4.1.3 HCP should take care not to touch their eye protection. If they touch or adjust their eye protection they must immediately perform hand hygiene

2.5 N95 Mask:

2.5.1 Will be used only for aerosol procedure procedures include Naso- pharyngeal swabbing (Surgical mask will be used in patient care not at risk for aerosol generating droplets such as those in units have moderated to mild case)

2.5.2 Re-using their N95 Mask up to 5 times if it has been covered by a facemask and is clean and not wet or soiled. Masks are stored in a paper bag with 5 checkbox notations on the outside of the bag.

Table 1. Recommended personal PPE during the care of COVID-19 cases, according to the setting, personnel, and type of activity

Health care facilities	Target personnel or patients	Activity	Type of PPE or procedure
Screening area	Healthcare workers	Preliminary screening not involving direct contact	Maintain spatial distance of at least 1 m. Surgical Mask
Triage	Healthcare workers	Second screening (i.e., interviewing passengers with fever for clinical symptoms suggestive of COVID-19 disease and travel history).	Surgical Mask & Glove green gown Maintain spatial distance of at least 1 m
Temporary isolation area	Staff, healthcare workers	Providing direct assistance.	Blue Gown, Gloves , Eye protection N95 Mask
In -patient Isolation Room	Staff, healthcare workers	Providing direct care to COVID-19 patient	N95 mask Blue Gown , Gloves Eye protection (goggles or face shield)
In patient Room	Cleaners	Entering the room of COVID-19 patients	Surgical mask Green Gown Disposal gloves Eye protection (if risk of splash from organic material) Boots or closed work shoes
Waiting room	Patients with respiratory symptoms	Any	Wear surgical mask Immediately move the patient to an isolation room or separate area away from others; if this is not feasible, ensure spatial distance of at least 1 m from other patients
	Patients without respiratory symptoms	Any	No PPE required
Laboratory	Lab technician	Manipulation of respiratory samples.	N95Medical mask Green Gown Gloves Eye protection (if risk of splash)
Outpatient	Health care workers	Physical examination of patients without respiratory symptoms	PPE according to the standard precaution & risk assessment
	Health care workers	Physical examination of patients with respiratory symptoms	Surgical mask Gown Gloves Eye protection Give Patient surgical mask
Administration	All staff, including	Administrative tasks that do	No PPE required

	healthcare workers.	not involve contact with COVID-19 patients	Maintain spatial distance of at least 1 meter Clean hands with alcohol-based hand rub
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/administrative works	No PPE required Maintain spatial distance of at least 1 meter Alcohol hand rub
Ambulance or transfer vehicle	Healthcare workers	Transporting suspected COVID-19 patients	Surgical Mask Gowns, Gloves ,Eye protection
	Drivers	Involved only in driving the suspected COVID-19 disease and the driver's compartment is separated from the COVID-19 patient	Maintain distance of at least 1 m. No PPE required Alcohol hand rub
		Assisting with loading or unloading patient with suspected COVID-19 disease	Surgical mask Green Gowns , Gloves
		No direct contact with patient with suspected COVID-19, but no separation between driver's and patient's compartments.	Surgical Mask
	Patient with suspected COVID-19 disease		Surgical Mask
	Cleaners		Surgical Mask Green Gown Disposal Glove Eye protection (if risk of splash from organic material). Boots or closed work shoes
Labour	Health care providers	Labour ward/vaginal delivery for possible or confirmed case	N95 Mask Blue Gown Disposal Glove Eye protection

Table 2. Selection of PPE and their extended during the care of COVID-19 cases according to the context

Setting	context	disposable gloves	disposable resistant Gown(blue)	Disposable Green Gown	N95 Mask	Surgical mask	Maintain distance of 1.5 -2 metres)	Eye/face protection
Acute care setting	Performing a single aerosol generating procedure on a possible or confirmed case	√	√	x	√	X		√
	Working in ICUs with possible or confirmed case /	√	√	x	√	X		√
	Working in an, inpatient , maternity, with possible or confirmed case(s)	√	x	√	Extended use	X	√	Extended use
	Working in an emergency department/Triage area	√	x	√	X	√ Extended use	√	
	Working in an ED isolation room with possible or confirmed case	√	√	X	Extended use	X	√	Extended use
	All individuals transferring possible or confirmed case(s)	√	x	√	X	√ Extended use	√	x
	Operating theatre with possible or confirmed	√	√	X	√	X	√	√
	Labour ward/vaginal delivery for possible or confirmed case	√	√	X	Single or Extended use		√	Single or Extended use
Ambulance staff /paramedic	Performing an aerosol generating procedure e.g. intubation,	√	√	X	√	X		√

	suctioning on a possible or confirmed case(s)							
	Driver conveying possible or confirmed case(s) in vehicle , no anticipated direct care	X	X	X	X	√ Extended use	√	X
	Direct patient care possible or confirmed case(s)	√	√	X	√	X	√	√
Virology Lab	Direct contact with patient sample	√	X	√ if required	Extended use	X		X

Note:

- Extended use refers to a period of time where a healthcare worker is undertaking duties in a specific care setting/exposure environment e.g. on a ward round; providing ongoing care for inpatients.
- Extended use ends when the healthcare worker leaves the care setting/exposure environment.
- Extended use should always be risk assessed and considered where there are high rates of hospital cases.
- PPE should be disposed if damaged, soiled or uncomfortable.
- Risk assessed use refers to utilising PPE when there is an anticipated/likely risk of contamination with splashes, droplets of blood or body fluids.