



# Guide for Rational use of personal protective equipment for coronavirus disease 2019 (COVID-19)



April, 2020

# **Operational Definition**

# • Personal Protective Equipment(PPE);-

Items are the protective barriers and respirators used alone or in combination by a health care worker (HCW) to protect mucous membranes, airways, skin, and clothing from contact with harmful or infectious agents. PPE may also be used on an infectious patient to prevent the spread of infectious agents (e.g., surgical mask worn by a patient to control the spread of illness).

## • Medical/surgical mask:-

A loose-fitting, disposable device that creates a physical barrier between the mouth and nose of the wearer and potential contaminants in the immediate environment, These are often referred to as face masks, although not all face masks are regulated as surgical masks. Note that the edges of the mask are not designed to form a seal around the nose and mouth.

### N95/FFP2(NIOSH N95, EN 149 FFP2) mask:-

A respiratory protective device designed to achieve a very close facial fit and very efficient filtration of airborne particles. Note that the edges of the respirator are designed to form a seal around the nose and mouth. Surgical N95 Respirators are commonly used in healthcare settings and are a subset of N95 Filtering Face piece Respirators (FFRs), often referred to as N95s.

#### • Isolation gown: -

It should be long-sleeved, fluid-resistant, single use, and preferably disposable. Isolation gowns are designed to prevent contamination of HCWs' arms, exposed areas of the body, and clothing from blood and body fluids and other potentially infectious material.

#### • Disposable cover all suit:-

An item of personal protective equipment (PPE) designed to cover the whole body and other clothing to protect against dirt or other outside contaminants. Coveralls are one piece and loose fitting for ease of movement, with sleeves, full leggings and often a hood to cover the head. These can also include overshoe pieces to cover footwear and protect against contamination.



### Introduction

This guide is developed to ensure rational use of personal protective equipment (PPE) in healthcare and community. 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 or FFP2 standard or equivalent) and aprons, head cover and boots.

It aims to provide information about when PPE use is most appropriate as to guide those who are involved in distributing and managing PPE, health care workers as well as public health authorities and other individuals working in non-health care sector and community settings.

Disruptions in the global supply chain of PPE

The current global stockpile of PPE is insufficient, particularly for medical masks and respirators; the supply of gowns and goggles is also soon expected to be insufficient. Surging global demand – driven not only by the number of COVID-19 cases but also by misinformation, panic buying and stockpiling will result in further shortages of PPE globally. The capacity to expand PPE production is limited, and the current demand for respirators and masks cannot be met, especially if the widespread, inappropriate use of PPE continues

Recommendations for optimizing the availability of PPE

The following strategies can facilitate optimal PPE availability:

1. Minimize the need for PPE in health care setting

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- Consider using telemedicine to evaluate suspected cases of COVID-19 disease (2), thus minimizing the need for these individuals to go to healthcare facilities for evaluation.
- 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 healthcare 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.

ict Equalthcare workers from entering the rooms of COVID-19 ats 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. plan which activities will be performed at the bedside

- Consider using runners to deliver sample collected to laboratory to minimize the use of PPE, and try to use one central pharmacy, try to minimize the need to open additional pharmacies
- 2. Ensure PPE use is rationalized and appropriate

PPE should be used based on the risk of exposure (e.g., type of activity) and the transmission dynamics of the pathogen (e.g., contact, droplet or aerosol). The overuse of PPE will have a further impact on supply shortages. Observing the following recommendations will ensure that the use of PPE is rationalized.

- The type of PPE used when caring for COVID-19 patients will vary according to the setting and type of personnel and activity.
- Healthcare workers involved in the direct care of patients should use the following PPE: Long sleeved isolation gowns, gloves, medical mask and eye protection (goggles or face shield), Boots or covered work shoe.
- Specifically, for aerosol-generating procedures (e.g., tracheal intubation, non-invasive ventilation, tracheostomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy) healthcare workers should use respirators, eye protection, gloves and long sleeved isolation gowns; aprons should also be used if gowns are not fluid resistant.

3. Coordinate PPE supply chain management mechanisms.

The management of PPE should be coordinated through essential national and international supply chain management mechanisms that include but are not restricted

Construction of requested supplies

- o Monitoring and controlling PPE requests from large responders;
- Promoting the use of a centralized request management approach to avoid duplication of stock and ensuring strict adherence to essential stock management rules to limit wastage, overstock and stock ruptures
- o Monitoring the end-to-end distribution of PPE
- Monitoring and controlling the distribution of PPE from medical facilities stores.

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

Setting	Target personnel or patients	Activity	Type of PPE
COVID-19 Tre	eating Healthcare Fa	acilities	
Out- patient fa	acilities 🥢 🔪		
Triage (Contaminated Zone)	Healthcare workers	Preliminary screening not involving direct contact	Maintain spatial distance of at least 1 m. Medical mask, Boots or closed work shoes
	Patients	Any	Maintain spatial distance of at least 2 m. Provide medical mask if tolerated by patient.
Waiting area (Contaminated Zone)	Healthcare Providers	Any	Maintain spatial distance of at least 2 m. Medical mask, Boots or closed work shoes
Contraction of the second seco	Patients	Any	Provide medical mask if tolerated. Ensure spatial distance of at least 2 m from other patients
Inpatient facili	ties -		

		1	
Patient room (Contaminated Zone)	Health care workers	Providing direct care to COVID-19 patients Aerosol-generating	Respirator N95 or FFP2 standard, or equivalent, Long sleeved isolation gown, Gloves, Eye protection (goggles or face shield), Boots or closed work shoes. Respirator N95 or FFP2
		procedures performed on COVID-19 patients	standard, or equivalent. Cover all suit, Gloves Eye protection Apron, Boots or closed work shoes
	Cleaners	Entering the room of COVID-19 patients.	Medical mask, Long sleeved isolation gown, Heavy duty gloves, eye protection in case of splash Boots or closed work shoes
	Laboratory Personnel	Taking and Manipulation of nasopharyngeal sample	N-95, Long sleeved isolation gown, Gloves, Eye protection (if risk of splash), Boots or closed work shoes
	Visitor/Care givers (mother of a child)	Entering the room of COVID-19 patients	Medical mask, Gloves, Gown, Eye protection
ICU (Contaminated Zone)	All healthcare professionals	Aerosol Generating procedures	N-95, Cover all Suit, Gloves, Eye protection (if risk of splash), Boots or closed work shoes
1 470	All healthcare professionals	Assisting Aerosol Generating procedures	N-95, Cover all Suit, Gloves, Eye protection (if risk of splash), Boots or closed work shoes
TIT TO ALL THE TO ALL THE TOP	All healthcare professionals	Non Aerosol Generating procedures	N-95, Long sleeved isolation gown, Glove, eye protection in case of
an Pice of Ethiopia	** **		

		I	anlach Boots or closed
			splash Boots or closed work shoes
0.1		Any estimity that does not	Medical mask, Long
	All staff including	Any activity that does not involve contact with	sleeved Isolation gown,
patient transit	healthcare workers.		Boots or closed work
(e.g., wards,	김 김 씨는 말 같이 다. 옷	COVID-19 patients.	shoes
corridors).	말에 그 다양 감독 중심을 통		
(Contaminated			Physical distancing
Zone)		A. 1935	
Morgue	All staff including		Medical Mask, Long
	healthcare workers.	coming in contact with	sleeved isolation gown
		COVID-19 related death	Apron, Heavy duty
			gloves, eye protection in
			case of splash, Boots or
			closed work shoes
Laboratory	Laboratory	Any	Medical mask, Long
(Clean Zone)	Personnel		sleeved isolation gown,
			Gloves, Eye protection
		An No	(if risk of splash), Boots
			or closed work shoes
Pharmacy	Pharmacy	Any	Medical Mask, Gown,
(Clean Zone)	Personnel		Boots or closed work
			shoes
General	Cleaners	Any	Medical mask, Long
Facility			sleeved isolation gown,
(Contaminated			Apron, Heavy duty
Zone)		÷	gloves, eye protection in
			case of splash Boots or
			closed work shoes
	Laundry Personnel	Any	Medical mask, Long
			sleeved isolation gown,
		요즘 감독을 걸쳐 있는 것이 없다.	Apron, Heavy duty
		물건 맛지만 물건가 모님 가격이	gloves, eye protection in
			case of splash Boots or
			closed work shoes
1. A. 2. 90 h	Runners	Any	Medical mask, Long
and a start of the	N. C. OR		sleeved isolation gown,
THE AN	ALL THE ALL TH	동생님은 장동 방송가 없다. 동법	Gloves, Eye protection
** SX	1.1	영영의 가슴을 걸려 가슴을 걸렸다.	(if risk of splash), Boots
E EL MY	3110		or closed work shoes
3. Duceral Demo	A LA		
Public of Ethio	1112		
Chiefledi			

	All staff including health care workers	Administrative tasks that do not involve contact with	Medical Mask, Physica distancing
Zone)	licalui care workers	COVID-19 patients.	distancing
,	19 Treating Healthc		
Out- patient fa			
Consultation	Health care	Physical examination of	
room	workers	patients with respiratory	Long sleeved isolatio
		symptoms	gown, Glove, Ey protection
	Health care	Physical examination of	2 05
	workers	patients without	standard precaution
		respiratory symptoms	and risk assessment Physical distancing
	Patient with	Any	Provide medical mask i
	respiratory		tolerated
	symptoms		Physical distancing
	Patient without	Any	Medical mask/clot
	respiratory	V. A. V	mask
	symptoms	1.1.	
	Cleaners	After and between consultations with patients	Medical mask, Lon sleeved isolation gowr
		with respiratory symptoms	Heavy duty gloves, Ey
		with respiratory symptoms	protection (if risk o
			splash from organi
			material or chemicals)
		이 것이 있는 것이 없는 것이 같이 없는 것이 없다.	Boots or closed worl
			shoes
Waiting room	Healthcare Worker	Apr	Physical distancing PPE according to
watting footin	Healthcare Worker	лпу	standard precaution
			and risk assessment
	Patient with	Any	Provide medical mask i
	respiratory		tolerated. Immediately
	symptoms		move the patient to an
			isolation room or
109 8 105	이 집에 많은 것이 같다.		separate area away from
ALTAN MORE	\.		others; if this is not feasible, ensure spatia
10			
At a start	E.		distance of at least 2 m

			from other patients and healthcare provider.
	Patients without respiratory symptoms	Any	Medical mask/cloth mask Physical distancing
Triage	Healthcare workers	Preliminary screening not involving direct contact	Maintain spatial distance of at least 2 m. Medical mask
	Patients with respiratory symptoms.	Any	Maintain spatial distance of at least 2 m. Provide medical mask if tolerated by patient.
	Patients without respiratory symptoms.	Any	Medical mask/cloth mask Physical distancing
Inpatient facil	ities		
Patient Rooms	Health care workers	Providing direct care to patients	PPE according to standard precautions and risk assessment Physical distancing
	Cleaners	Entering the room of patients.	PPE according to standard precautions and risk assessment Physical distancing
	Laboratory Personnel	Taking and Manipulation of nasopharyngeal sample	N-95, Gloves, Eye protection (if risk of splash) Physical distancing
	Caregiver/Visitors	Any	Medical mask/cloth mask (If available) Physical distancing
ICU	Healthcare Providers	Any	PPE according to standard precautions and risk assessment Physical distancing
Isolation Room for Suspected	Healthcare Workers	Any	Medical mask, Long sleeved isolation gown, Gloves, Eye protection (goggles or face shield),

			D 1 1 1
COVId-19			Boots or closed work
Patient			shoes.
			Physical distancing of
			m
	Cleaners	Entering the room of	
	이 이 가슴 감 잡다. 것도 같	suspected COVID-19	sleeved isolation gowr
		patients.	Heavy duty gloves, Ey
			protection (if risk o
			splash from organi
			material or chemicals)
			Boots or closed wor
			shoes
	Patients suspected	Any	If in a single room no
	with COVID-19		need to wear Medica
			masks but if single
			rooms are not available
			should wear Medica
			mask and
			Physical distancing form
			other suspected patients
			healthcare provider and
			care givers
Other areas of	All staff including	Any activity that does not	PPE according to
	healthcare workers.	ALTERNA ALTERNAL	standard precautions
(e.g., wards,		COVID-19 Suspected	and risk assessment
corridors).	N N	patients.	Physical distancing
Morgue	All staff including	Any activity (reason for	Apron, Heavy duty
	healthcare workers.	death has no indication	gloves, , eye protection
		related to COVID-19)	in case of splash, Boots
A. A			or closed work shoes
	All staff including	Any activity (reason for	Medical Mask, Long
	healthcare workers.	death might be related to	sleeved isolation gown,
		COVID-19)	Apron, Heavy duty
		한 방법은 전쟁에서 집에 있는 것이 없다.	gloves, eye protection in
		시작성은 영양이 많은 것이 같아.	case of splash Boots or
			closed work shoes
Laboratory	Laboratory	Any	PPE according to
	personnel		standard precautions
	personner		
. NO 2. 40h	personner	그는 동생은 방법에 들어야 했는지?	and risk assessment
WALL SOPPLE			and risk assessment Physical distancing
Sector Contraction			
Julton astro			
A REAL PROPERTY OF THE REAL PR			
Cut the an Democratic			

Pharmacy	Pharmacy personnel	Any	PPE according to standard precaution
			and risk assessment Physical distancing
General	Cleaners	Any	PPE according to
Facility	Cleaners		standard precaution
raciiity	집 것은 그는 것이 같은 것이.	집 이상은 양성 전쟁에 가지 않는	and risk assessment
		이번 성격 다 물건이 잘 알려요. 눈물을	Physical distancing
	Laundry Personnel	Any	PPE according to
	L'aditidi y i cisonnei	liny	standard precaution
			and risk assessment
			Physical distancing
	Runners	Any	PPE according to
			standard precaution
			and risk assessment
			Physical distancing
Administrative	All staff including	Any	Medical Mask,
areas	health care workers		Physical distancing
Community			
Home	Patient with	Any	Maintain spatial distance
	respiratory		of at least 2 m. Provide
	symptoms		medical mask i
			tolerated, except when
			sleeping. Change masl
			each day
A	Care taker	Entering the patient's	Medical mask, glove
	V AV	room, but not providing	maintain spatial distance
		direct care or assistance.	of at least 2 M
	Care taker	Providing direct care or	
		when handling stool, urine	Apron (if risk of splash
		or waste from COVID-19	or excretion), Eye
		patient being cared for at	protection
		home.	
	Health care worker	Providing direct care or	Medical mask, Long
아이스 아이지?		assistance to a COVID-19	sleeved isolation gown
AP K. MPC		patient at home	Gloves, Eye protection
Publician afeas	Individuals without	Any	Medical mask or cloth
çig., shopping			mask or cover nose and
nalls, trains	symptoms		mouth with scurf
0	8		
Subral Demood	7		
Besceral Democra P bublic of Ethio 02 Public Health Inst	5/		

		Any type	Medical mask
Screening area	Staff	Screening (temperature Measurement, interviewing passengers)	Medical mask, Gown Glove, Spatial distanc
	Cleaners	When cleaning the area where passengers with fever are being screened	Medical mask, Gown, Heavy duty gloves, Apron, Eye protection (if risk of splash of organic material or chemicals) Boots or closed work shoes
Temporary isolation area	Staff	When entering isolation area, but not providing direct assistance	Spatial distance of at least 2 meter Medical mask, Gloves
	Staff/Health care workers	Providing assistance to the passenger for transportation to a healthcare facility	Medical mask, Long sleeved isolation gowr Gloves, Eye protectio
	Cleaners	Cleaning isolation areas	Medical mask, Long sleeved isolation gown Apron, Heavy duty gloves Eye protection (if risk of splash from organic material or chemicals). Boots or closed work
Ambulance or transfer vehicle	Health care workers	Transporting suspected COVID-19 patients to the referral healthcare facility	Medical mask, Long sleeved isolation gown Gloves, Eye protection Physical distancing
S.LAR K. P. H. P. C. P. S. L.	Drivers	Involved only in driving the patient with suspected COVID-19 disease and the driver's compartment	Medical Mask/ cloth mask, Maintain spatial distance of at least 2 n

		is separated from the	
		COVID-19 patient.	Maliant mark Lana
		Assisting with loading or	Medical mask, Long
		unloading patient with	sleeved isolation gown,
		suspected COVID-19	Gloves, Eye protection
	김 김 씨는 것이 아직을 했다.	disease	
	김 아이들은 물건물건	No direct contact with	Medical mask, Long
		patient with suspected	sleeved isolation gown,
		COVID-19, but no	Gloves, Eye protection
		separation between driver's	
		and patient's	
		compartments.	
	Patient with	Transport to the referral	Medical mask if
	suspected COVID-	healthcare facility.	tolerated
	19 disease		
	Cleaners/	Cleaning after and between	Medical mask, Scrub
	Disinfectors/	transport of patients with	suit, Long sleeved
	Sprayers	suspected COVID-19	isolation gown, Heavy
		disease to the referral	duty gloves, Apron, Eye
		healthcare facility	protection (if risk of
			splash from organic
			material or chemicals).
			Hair cap, Boots or
			closed work shoes
Rapid Respon	nse Team (RRT)		
Anywhere	RRT	In-person interview of	Medical mask Maintain
		suspected or confirmed	spatial distance
( A		COVID-19 patients	The interview should be
		without direct contact.	conducted outside the
			house or outdoors, and
		방법 건물 관계에서 이번 물건을	confirmed or suspected
		화범하는 승규는 것이 같아요.	COVID-19 patients
		지 신 것 없어? 이상화장 안에 들어?	should wear a medical
			mask if tolerated
		Assisting with loading or	Medical mask, Long
		unloading patient with	sleeved isolation gown
		suspected COVID-19	Gloves, Eye protection
		disease	
LAS Sorthan		Assisting but only	Medical mask (If
in a philippin and s is		involved in observation	available)
Star Con	1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1. 1		
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E. P. Consinemo	and		
objoublic of Eth	min		
Public Hear			

(no direct contact with the	Physical distancing of 2
suspected or conformed	m
case)	
If a member involved in	N-95, Long sleeved
taking and Manipulation of	isolation gown, Gloves
respiratory sample	Eye protection (if risk of
	splash)



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