

PPE for COVID19 & minimize risk

Preventing and controlling transmission of COVID 19 infection in Africa

PPE: Objectives

- Define PPE
- Risk assessment for wearing of PPE
- Rules about PPE and infection control practices
- Types of PPE and their recommended use in the care of Covid-19

What is PPE?

- Any type of face mask, glove, or clothing that acts as a barrier between infectious materials and the skin or eyes, nose and mouth (mucous membranes)
- When used properly, PPE can help prevent the spread of infection from one person to another

Who should put on (don) Personal Protective Equipment (PPE)?

- All clinical workers
- Those who care for patients with symptoms e.g. suspected cases with COVID-19
- All laboratory staff
- All support staff e.g. cleaners, waste handlers
- Family members who care for COVID-19 patients

Administrative control for minimising need for PPE

1. Administrative Controls:

- Policies and procedures based on sound epidemiology and best practice
- Education and training- how to don and doff

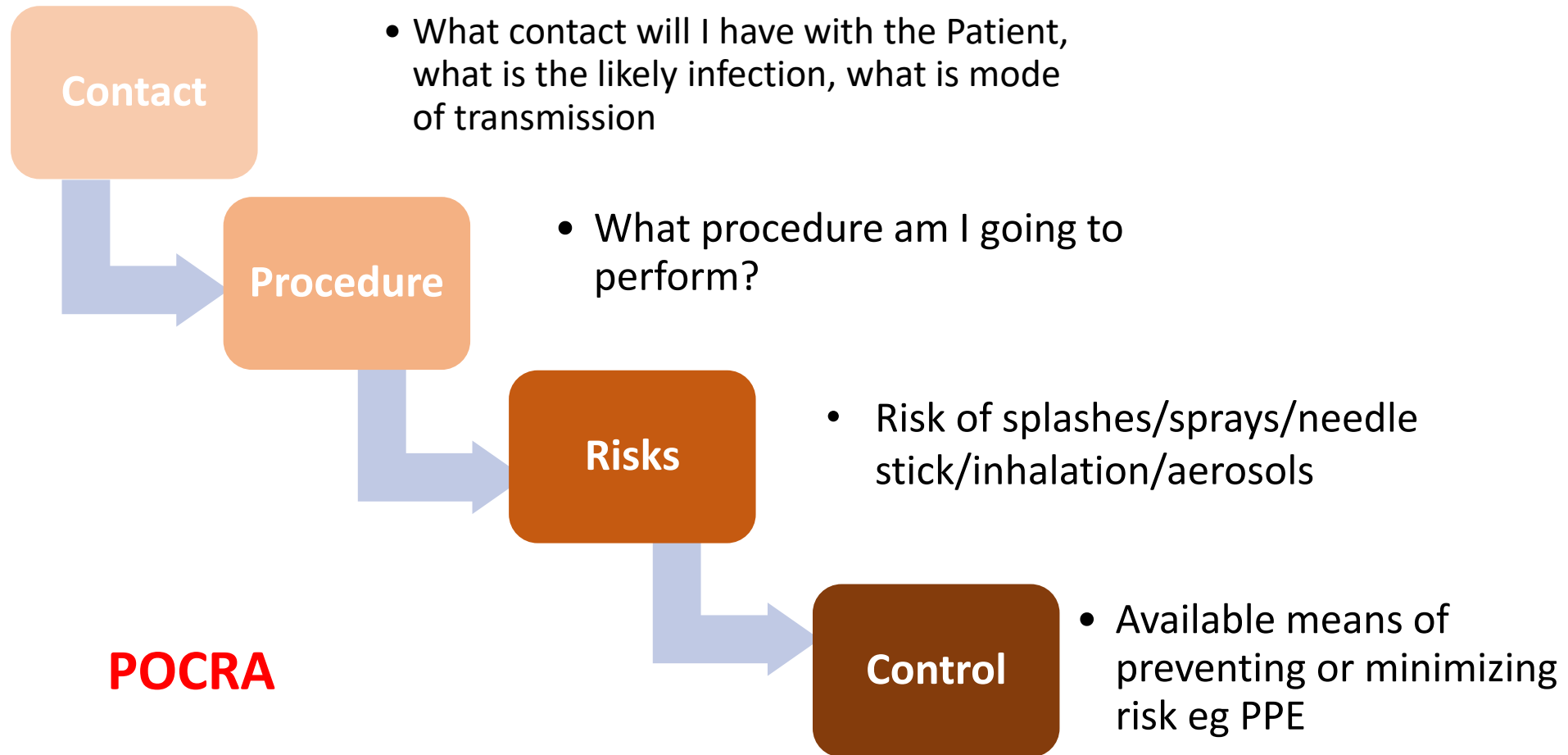
2. Engineering Controls:

- Facility to have infrastructure to store and destroy
- Infrastructure to contain spread

3. Personal Protective Equipment (PPE) what is available

NOTE: The above must be employed in conjunction with each other ensure proper IPC measures

Questions to ask before you carry out care on any patient



Risk Assessment and PPE

- Risk assessment:
- risk of exposure and extent of contact anticipated with blood, body fluids, respiratory droplets, and/or open skin
 - Select which PPE items to wear based on this assessment
 - Perform hand hygiene according to the WHO “5 Moments”
 - Should be done for each patient, each time

Make this routine!

Remember that instruments, equipment, linen, supplies, and hard surfaces can be contaminated with blood and body fluids as well.

The contamination is not always visible.

Rules about the use of PPE

- PPE can be a transmitter of microbes when contaminated.
- Use of PPE to allay personal prejudice or fear without indication for a procedure can sometimes increase the risk of infection
- Not a substitute for poor infection control practice (including engineering) or nursing procedure
- All PPE have a limited life and must be discarded after use as indicated, usually after each patient use

Use of PPE for Corvid 19

- The use of personal protective equipment (PPE) by healthcare workers requires a risk evaluation of the level of care.
- Triage:
- Collection of specimens for laboratory diagnosis
- Suspected or confirmed case of COVID-19 requiring healthcare facility admission and NO AGP
- Suspected or confirmed case of COVID-19 requiring healthcare facility admission and AGP

Principles for using PPE (1)

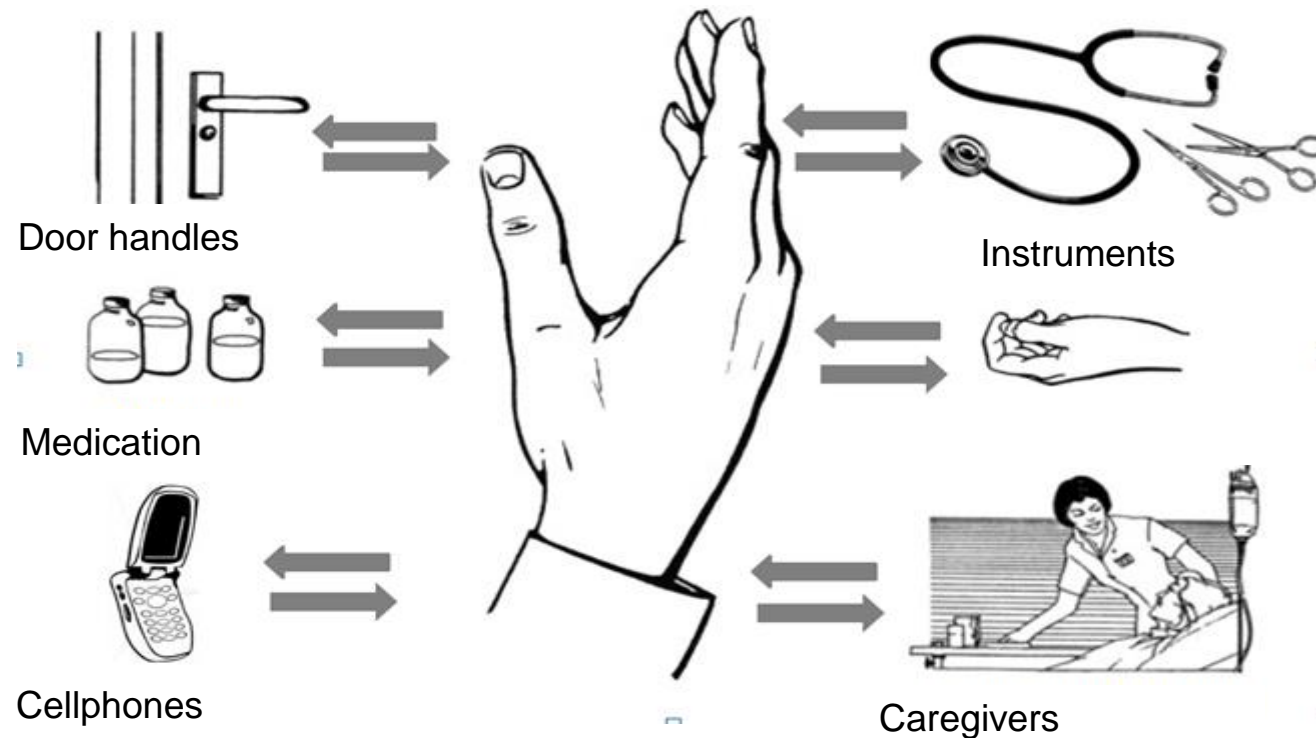
- Always clean your hands before and after wearing PPE
- PPE should be available where and when it is indicated
 - in the correct size
 - select according to risk or per transmission based precautions
- Always put on before contact with the patient's body fluid/or when patient has contact precaution
- Always remove immediately after completing the task and/or leaving the patient care area
- NEVER reuse disposable PPE
- Clean and disinfect reusable PPE between each use

Principles for using PPE (2)

- Change PPE immediately if it becomes contaminated or damaged
- PPE should not be adjusted or touched during patient care; specifically
 - never touch your face while wearing PPE
 - if there is concern and/or breach of these practices, leave the patient care area when safe to do so and properly remove and change the PPE
 - Always remove carefully to avoid self-contamination (from dirtiest to cleanest areas)

Hand Hygiene and PPE

- Best way to prevent the spread of germs in the health care setting and community
- Our hands are our main tool for work as health care workers- and they are the key link in the chain of transmission



Types of PPE Used in care of Covid-19 patient



- GLOVES – protect hands
- GOWNS/ APRONS – protect skin and/or clothing
- MASKS – protect mouth/nose



RESPIRATORS – protect respiratory tract from airborne infectious agents.

- GOGGLES – protect eyes
- FACE SHIELDS – protect Face (mouth, nose, and eyes)



Summary of Scenarios & PPEs use in COVID-19

Level of case	Hand hygiene	Gown	Medical mask	Respirator (N95 or FFP2)	Goggle (eye protection) OR Face shield (facial protection)	Gloves
Triage	X		X			
Collection of specimens for laboratory diagnosis	X	X		X	X	X
Suspected or confirmed case of COVID-19 requiring healthcare facility admission and <u>NO</u> aerosol-generating procedure	X	X	X		X	X
Suspected or confirmed case of COVID-19 requiring healthcare facility admission and <u>WITH</u> aerosol-generating procedure	X	X		X	X	X

To minimize direct unprotected exposure to blood and body fluids, use...

SCENARIO	HAND HYGIENE	GLOVES	GOWN	MEDICAL MASK	EYE-WEAR
Always before and after patient contact, and after contaminated environment	x				
If direct contact with blood and body fluids, secretions, excretions, mucous membranes, non-intact skin	x	x			
If there is risk of splashes onto the health care worker's body	x	x	x		
If there is a risk of splashes onto the body and face	x	x	x	x	x

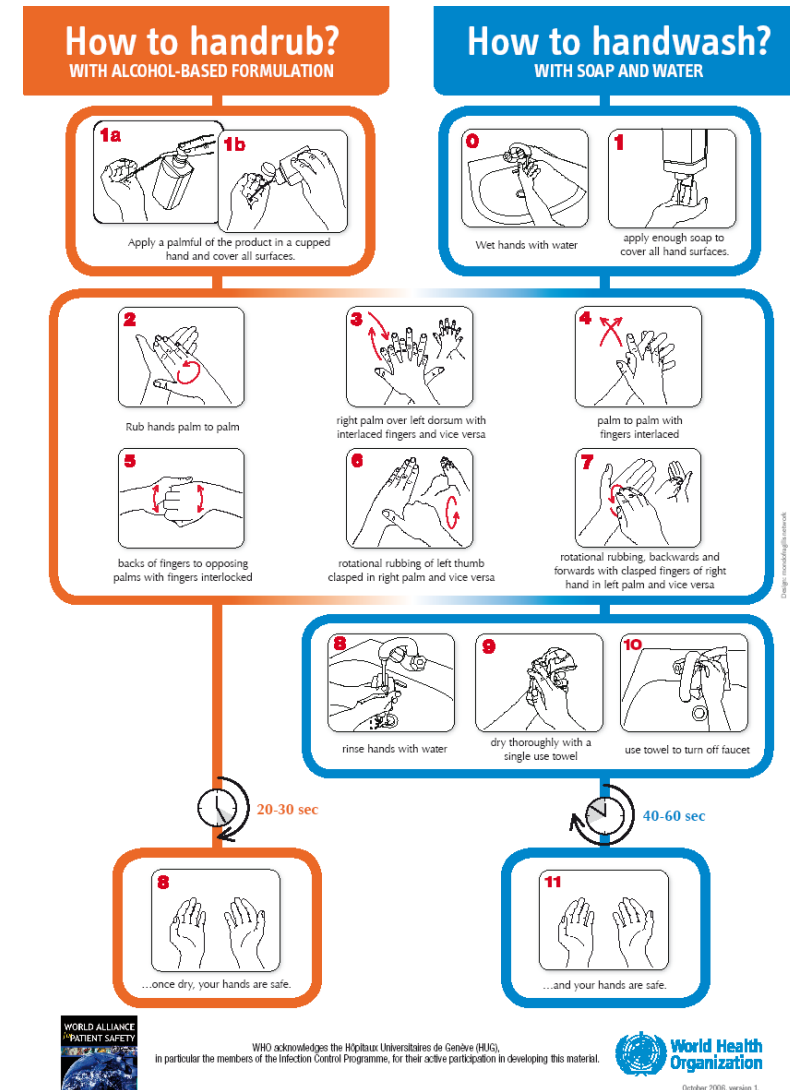
Personal Protective Equipment (PPE) Cart- (examples of Storage)



Procedure for donning PPE

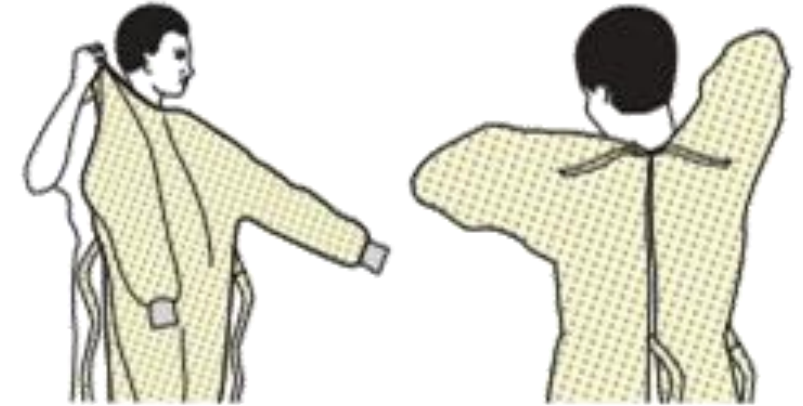
Preparing to Don PPE

- Ensure you have all the PPE laid out
- Always make sure you have the right size for you
- Plan where to Don and doff
- Plan for waste disposal
- Remember to perform Hand hygiene



DONNING OF GOWN

- Put arms in sleeves, pull gown towards shoulders to fully cover torso from neck to knees, arms to wrists and wrap to the back. Fasten at the back of the neck and tie around the waist,
- Tie the gown securely but in a manner that it can be easily untied when you begin the doffing process. Leave some length of the tie so that it can be pulled and untied without much effort



Donning the Mask

- Perform Hand hygiene, remove a mask from the box and make sure there are no obvious tears or holes in either side of the mask.
- identify the top - the side of the mask that has a stiff bendable edge is the top and is meant to mold to the shape of your nose.
- The colored side of the mask is usually the front and should face away from you, while the white side touches your face.



- *Face Mask with Ear loops:* Hold the mask by the ear loops. Place a loop around each ear.
- *Face Mask with Ties:* Bring the mask to your nose level and place the ties over the crown of your head and secure with a bow.
- *Face Mask with Bands:* Hold the mask in your hand with the nosepiece or top of the mask at fingertips, allowing the headbands to hang freely below hands. Pull the top strap over your head so that it rests over the crown of your head. Pull the bottom strap over your head so that it rests at the nape of your neck
- Fit flexible band to nose bridge and snug to face & under chin

Non medical use of cloth masks- community

LET'S STOP THE SPREAD

Should you wear a mask?

Well made cloth masks do not replace the **5 Golden Rules** of Good Hygiene. They may offer some extra protection if well made and used correctly.

Do not use N95 respirators and medical masks. There is a shortage and we must keep them to protect health workers caring for those with COVID-19.

Follow the 5 Golden Rules of Good Hygiene to stop the spread of coronavirus:

- 1** Wash your hands often for at least 20 seconds with soap and water.
- 2** Do not touch your face with unwashed hands.
- 3** Cough or sneeze into a tissue or your elbow. Safely throw away the tissue.
- 4** Keep 1,5 metres apart from others.
- 5** Stay home if unwell. Contact a hotline or your health worker.

24 National Hotline : 0800 029 999
24 Provincial Hotline : 021 928 4102
24 National WhatsApp : 0600 123 456

 Western Cape Government

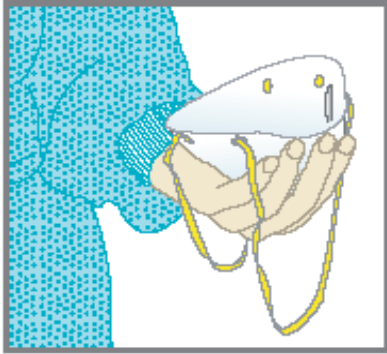
FOR MORE INFORMATION: www.westerncape.gov.za



Donning Mask: the Dos and Don'ts



Donning a Respirator (N-95mask)



Step 1

- Cup the respirator in your hand with the nosepiece at your fingertips, allowing the headbands to hang freely below your head



Step 2

- Position the respirator under your chin with the nosepiece up

How to perform a particulate respirator seal check



Step 3

- Pull the top strap over your head, resting it high at the back of your head
- Pull the bottom strap over your head and position it around the neck below the ears



Step 4

- Place fingertips of both hands at the top of the metal nosepiece
 - Mould the nosepiece (USING TWO FINGERS OF EACH HAND) to the shape of your nose
- (Pinching the nosepiece with one hand may result in less performance)

How to perform a particulate respirator seal check



Step 5

- Cover the front of the respiratory with both hands, being careful not to disturb the position of the respirator

Step 5a: Positive seal check

- Exhale sharply.** Positive pressure inside the respirator= no leakage. If leakage, adjust the position and/or tension of the straps and retest
- Repeat until the respirator is secured properly

Step 5b: Negative seal check

- Inhale deeply.** If no leakage, a negative pressure will make respirator cling to your face

Leakage will result in air entering through gaps in seal

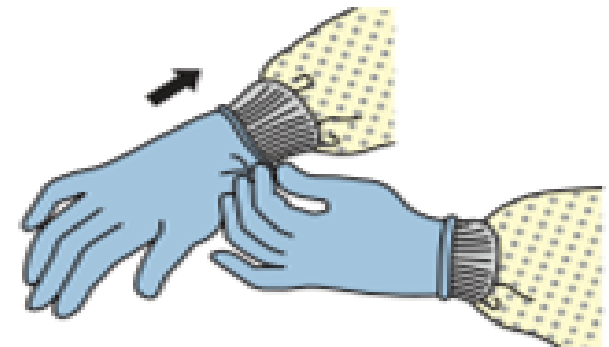
Putting on the Goggles or face Shield

- Place over face and eyes and adjust strap to fit.
- Anti-fog feature improves clarity.



Donning of Gloves

- Gloves come in different sizes, so make sure you choose the right size for a good fit.
- If the gloves are too big, it is hard to hold objects and easier for germs to get inside your gloves; if too small more likely to tear.
- Start by identify the thumbs part and put on ensuring each finger fits in, pull down gently and extend to cover wrist



How to Don PPE



COVID-19 (formerly novel coronavirus 2019):
Personal Protective Equipment (PPE)
- guide for hospital clinical staff

Putting off/Doffing of PPE

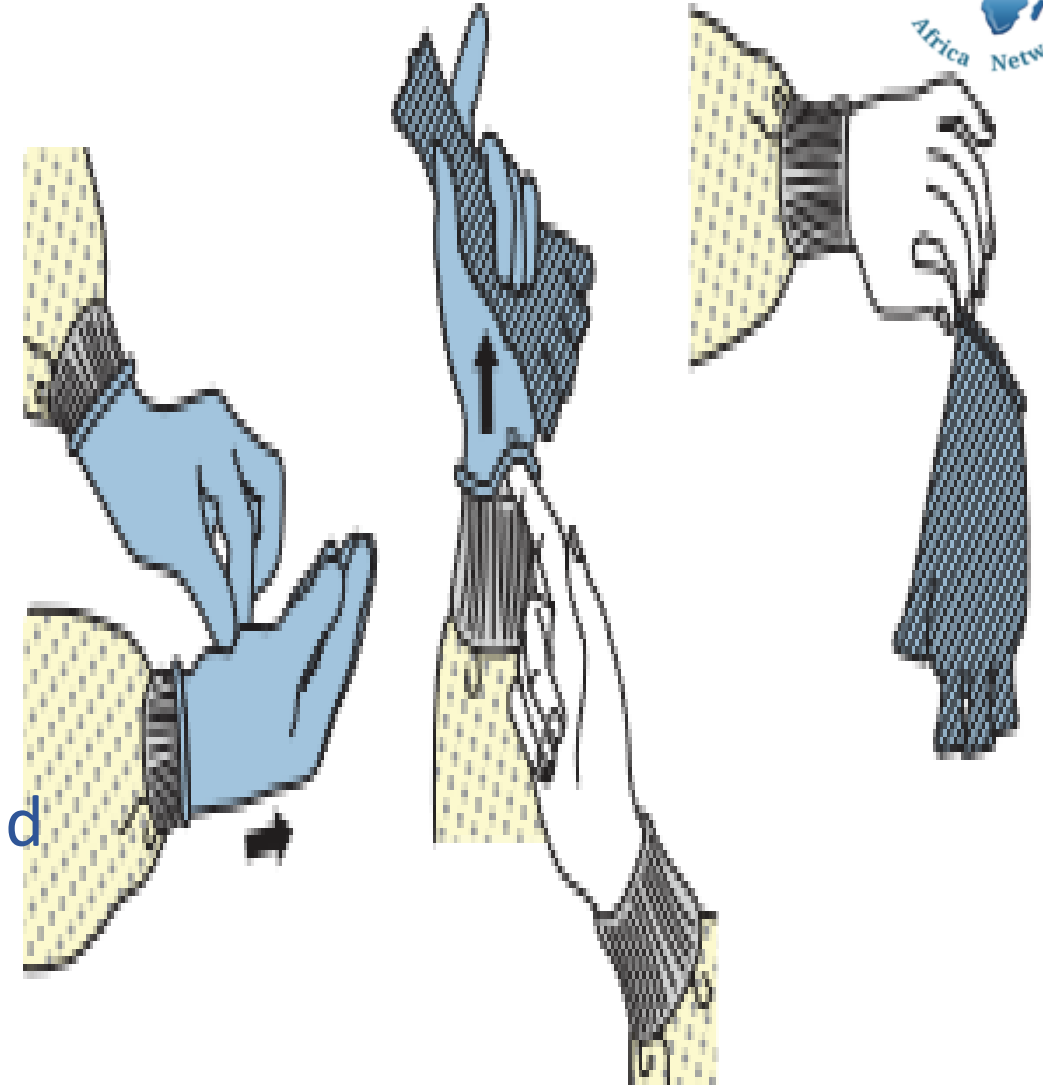
General Considerations (Doffing PPE)


- Remove all PPE before exiting the patient room except a respirator, if worn.
- Perform Hand Hygiene between steps. If hands become contaminated and immediately after removing all PPE.

Removing Gloves

Outside of gloves are contaminated!

- Using gloved hands, grasp below the palm area of the other gloved hand, pull over fingers and peel backwards to remove turning inside out, hold removed glove in other gloved hand.
- Slide fingers of ungloved hand under remaining glove at wrist and peel off second glove over first glove
- Discard removed gloves in appropriate waste container
- Perform Hand hygiene afterwards



A close-up photograph of a hand wearing a blue nitrile glove, positioned on the left side of the slide. The glove is shown from the back, with fingers slightly spread. In the background, a person wearing a white lab coat and a blue surgical cap is partially visible, out of focus.

STOP USING GLOVES UNLESS YOU WORK IN A CLINIC OR A HOSPITAL.

Gloves are worn to avoid cross-contamination.

In a clinic/hospital environment, a clinician will glove up before touching a patient and then **DISCARD** the gloves before moving onto another task.

If you are wearing the same gloves when you shop, touch supplies, the trolley, the door, your phone, your face and so on, **YOU ARE SPREADING GERMS!**

It's better not to wear gloves at all.

WASH YOUR HANDS after being to the shop or having completed a task.

Removing a Medical mask

- Perform Hand hygiene
- Avoid touching the front of the mask. The front of the mask is contaminated.
- Only touch the ear loops/ties/band.
- *Face Mask with Ear loops:* Hold both of the ear loops and gently lift and remove the mask.
- *Face Mask with Ties:* Untie the bottom bow first then untie the top bow and pull the mask away from you as the ties are loosened.
- *Face Mask with Bands:* Lift the bottom strap over your head first then pull the top strap over your head.
- Dispose the mask and perform hand hygiene

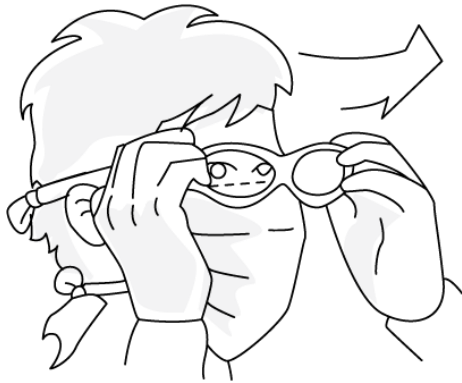
How to remove a Gown

- With clean hands, untie or break ties at the back and neck
- Touching only the inside of the gown, pull from neck and shoulders, then arms, turning inside out as gown is removed
- Avoid contaminating yourself while doing this
- Roll gown into bundle and discard in appropriate waste
- Perform hand hygiene



Removing protective eye cover

- With clean hands, remove eyewear by handling sides or back only
- Reprocess and store appropriately
- Wash hands



How to remove a respirator

- It's important that you not touch the front of the **respirator**.
- First, tilt your head forward, gently remove the bottom strap first by slowly pulling it over the head.
- Then remove the top strap, being very careful not to touch the front of the mask
- Discard the mask safely in waste bin provided and Perform hand hygiene.



How to remove (doff) PPE



Public Health
England

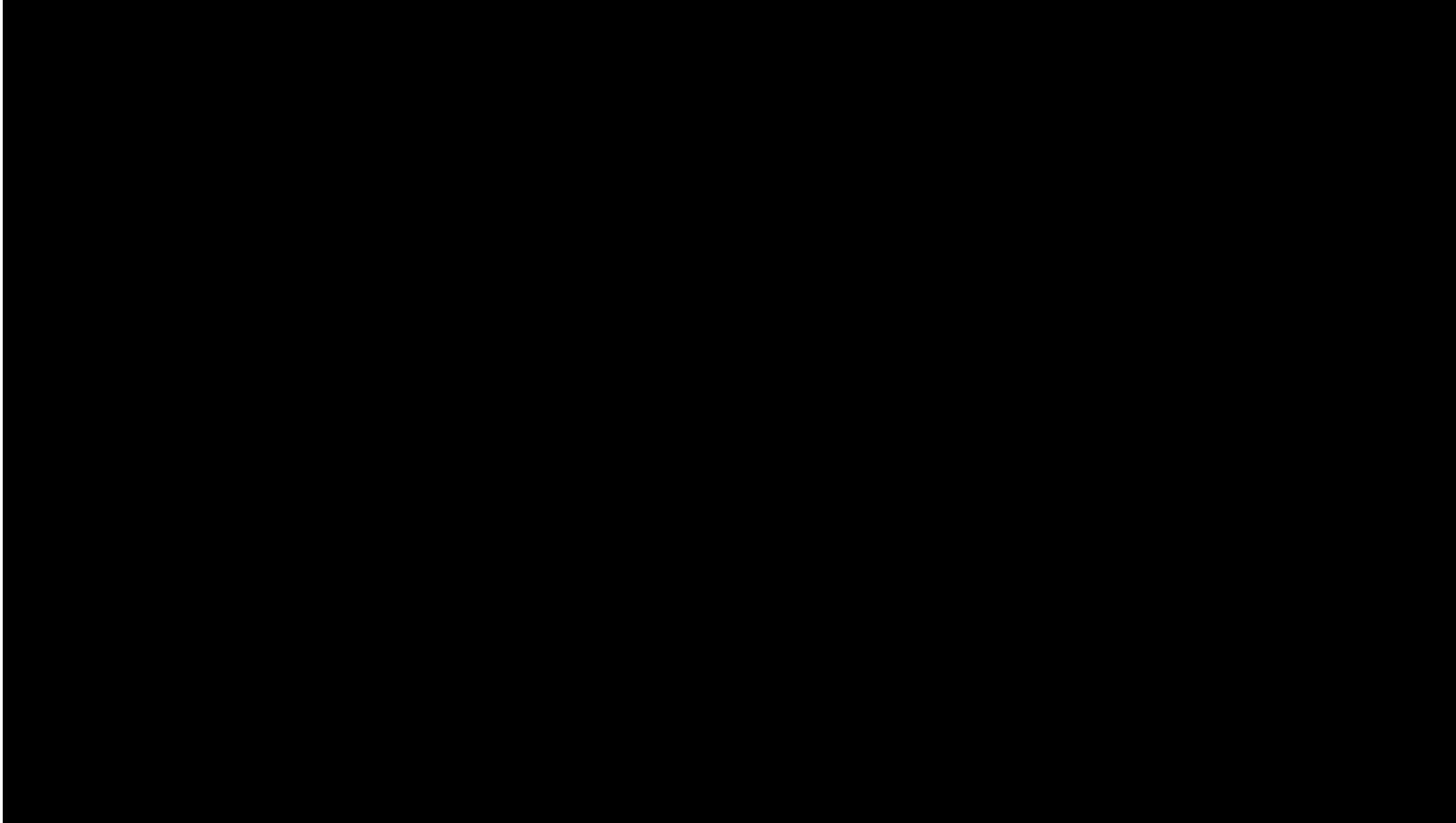


NHS England

COVID-19 (formerly novel coronavirus 2019):

The correct order for
removal and disposal of
Personal Protective Equipment (PPE)

Alternative video : combined donning and doffing



Extended use of PPE

Type of PPE	Extended use	Reprocess
Gloves (non-sterile)	NO	NO
Face masks	Yes. Until damp or torn, or to end of shift. Change if contaminated	No
N95 respirators	Yes. Up to 1 week for same HCW (as TB protocol), unless respirator integrity or leak-proof seal is compromised	WHO Methods not validated: Hydrogen peroxide, ethylene oxide, UV Radiation lamp
Goggles	Yes but do not contaminate hands	Yes - wash with soap and water. Dry. Wipe over with alcohol wipes
Face shields	Yes, but do not contaminate hands	Yes - wash with soap and water. Dry. Wipe over with alcohol wipes

Source: Covid 19 IPC Guidelines for SA and WHO Rational use of PPE for Covid-19 and considerations during severe shortages

References

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