

## **Guidelines for Wearing and Removing Personal Protective Equipment (PPE)**

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## 1. What is PPE?

Personal Protective Equipment (PPE) is particular clothing or equipment designed to protect people and keep them safe during exposures to infectious agents or harmful materials such as chemicals used for cleaning and disinfecting.

## 2. Types and Functions of PPE

Types of PPE include:

- Head cover
- Goggles
- Face shield
- Medical masks
- Respirators, including N95 respirators
- Gloves
- Water resistant gown
- Waterproof apron / disposable coverall
- Waterproof boots / shoe covers

When PPE is used correctly, it creates barrier between the person and the infectious agents or harmful materials. There are different levels of PPE depending on the circumstance, pathogen/hazard and duration or level of exposure with some or all of the types of PPE above being used.

Different types of PPE have different functions. For example:

- **Medical masks and respirators:** Used to protect against inhalation of droplets, particles and chemical fumes. The type of respirator or mask that is needed depends on what the person is being exposed to. Ensuring the correct PPE item is worn and that it fits properly is critically important.
- **Eye protection:** Goggles or face shields prevent or reduce the risk of the person's eyes being exposed to infectious agents or harmful materials. Goggles should be fitted and compatible with the respirator if one is being worn at the same time.
- **Body protection:** Water resistant gowns, aprons, head covers and boots protect body and clothing from contamination or damage.
- **Hand protection:** Gloves prevent hands contamination from infectious agents or skin damage from harmful materials.

## 3. Who should use PPE?

The need for PPE is informed by the risk of exposure or injury, and local policy and protocols. Various forms of PPE should be worn under the following conditions:

- Persons caring for people with infectious pathogens, such as TB, COVID-19, and influenza.
- Healthcare providers caring for people with infectious pathogens (as above and also include haemorrhagic fevers).

- Healthcare providers performing procedures that may induce cough or produce aerosols such as obtaining swabs for testing, non-invasive ventilation, and tracheal intubation
- Housekeeping/maintenance in healthcare facilities with known persons with infectious pathogens.
- People working with the bodies of deceased patients, particularly of those that have died of an infectious pathogen.

#### 4. Keys messages about PPE

Effective use of PPE includes properly putting on and taking off (donning and doffing) of PPE.

- Perform hand hygiene with soap and water for at least 20 seconds or hand sanitizer before putting on PPE.
- If requiring respirators, ensure that these are fit checked.
- Once PPE is on, take care not to contaminate yourself, for example by touching your face (including goggles and masks).
- When removing used PPE, take care to avoid contaminating yourself or the area around you.
- Discard used PPE in an appropriate waste container.
- Perform hand hygiene with soap and water for at least 20 seconds after removing the PPE.

**Note:** Please follow the instructions for taking on and off PPE in Annex 1 and 2.

#### 5. How to dispose of PPE

Generally, healthcare waste must be segregated as soon as it is generated. Each type of waste must be contained in specialized bags and containers with suitable logos. Medical waste management guidelines should be followed and contaminated PPE should be disposed of in yellow colour bags and containers as it is to be treated as infected waste.



Reusable items (e.g. boots) must be disinfected appropriately with 0.5% chlorine solution for 30 minutes then rinsed and dried at least once a day.

#### Reference and Bibliography



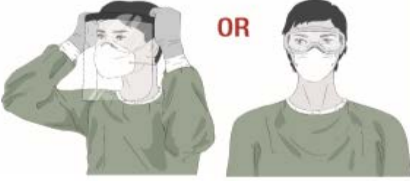

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## Annex 1. Steps to wear full PPE

### Steps to put on personal protective equipment (PPE) including gown


- 1 Remove all personal items (jewelry, watches, cell phones, pens, etc.)**  

- 2 Put on scrub suit and rubber boots<sup>1</sup> in the changing room.**  

- 3 Move to the clean area at the entrance of the isolation unit.**
- 4 By visual inspection, ensure that all sizes of the PPE set are correct and the quality is appropriate.**
- 5 Undertake the procedure of putting on PPE under the guidance and supervision of a trained observer (colleague).**
- 6 Perform hand hygiene.**  

- 7 Put on gloves (examination, nitrile gloves).**  

- 8 Put on disposable gown made of fabric that is tested for resistance to penetration by blood or body fluids OR to blood-borne pathogens.**  

- 9 Put on face mask.**  

- 10 Put on face shield OR goggles.**  

- 11 Put on head and neck covering surgical bonnet covering neck and sides of the head (preferable with face shield) OR hood.**  

- 12 Put on disposable waterproof apron (If not available, use heavy duty, reusable waterproof apron).**  

- 13 Put on second pair of (preferably long cuff) gloves over the cuff.**  


<sup>1</sup> If boots are not available, use closed shoes (slip-ons without shoelaces and fully covering the dorsum of the foot and ankles) and shoe covers (nonslip and preferably impermeable)

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## Annex 2: Steps to remove PPE

### Steps to take off personal protective equipment (PPE) including gown

**1** Always remove PPE under the **guidance and supervision of a trained observer** (colleague). Ensure that infectious waste containers are available in the doffing area for safe disposal of PPE. Separate containers should be available for reusable items.

**2** Perform **hand hygiene** on gloved hands.<sup>1</sup>

**3** Remove **apron** leaning forward and taking care to avoid contaminating your hands. When removing disposable apron, tear it off at the neck and roll it down without touching the front area. Then untie the back and roll the apron forward.



**4** Perform **hand hygiene** on gloved hands.

**5** Remove **outer pair of gloves** and dispose of them safely. Use the technique shown in Step 17

**6** Perform **hand hygiene** on gloved hands.

**7** Remove **head and neck covering** taking care to avoid contaminating your face by starting from the bottom of the hood in the back and rolling from back to front and from inside to outside, and dispose of it safely.



OR



**9** Remove the **gown** by untying the knot first, then pulling from back to front rolling it from inside to outside and dispose of it safely.



**8** Perform **hand hygiene** on gloved hands.

**10** Perform **hand hygiene** on gloved hands.

**11** Remove **eye protection** by pulling the string from behind the head and dispose of it safely.



OR



**13** Remove the **mask** from behind the head by first untying the bottom string above the head and leaving it hanging in front; and then the top string next from behind head and dispose of it safely.



**14** Perform **hand hygiene** on gloved hands.

**12** Perform **hand hygiene** on gloved hands.

**17** Remove **gloves** carefully with appropriate technique and dispose of them safely.



**15** Remove **rubber boots** without touching them (or overshoes if wearing shoes). If the same boots are to be used outside of the high-risk zone, keep them on but clean and decontaminate appropriately before leaving the doffing area.<sup>2</sup>

**16** Perform **hand hygiene** on gloved hands.

**18** Perform **hand hygiene**.

<sup>1</sup> While working in the patient care area, outer gloves should be changed between patients and prior to exiting (change after seeing the last patient)  
<sup>2</sup> Appropriate decontamination of boots includes stepping into a footbath with 0.5% chlorine solution (and removing dirt with toilet brush if heavily soiled with mud and/or organic materials) and then wiping all sides with 0.5% chlorine solution. At least once a day boots should be disinfected by soaking in a 0.5% chlorine solution for 30 min, then rinsed and dried.

Source:

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