

Personal Protective Equipment for Different Clinical Settings and Activities



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January 2021



Background

This document provides guidance to African Union Member States based on specific requests from Member States for a checklist/guidance for the required Personal Protective Equipment (PPE) for healthcare workers and caregivers. This guidance document has been tailored based on currently available evidence (1–6), with consideration to the African context, as such can be adapted to the country context.

As the COVID-19 cases continue to increase across Africa, Member States are encouraged to provide sufficient PPE supplies for their healthcare workers and other staff whose duties require PPE. Member States should optimally use PPEs and make adequate plans for a surge in PPE needs due to the disruptions in the global supply chain of PPE that may result to global shortages.

Healthcare facilities should have assigned COVID-19 treatment units and implement administrative and engineering control for COVID-19. In addition to preventive measures for COVID-19,¹ healthcare workers and healthcare personnel must adopt standard and transmission-based precautions.



¹[2019 Novel Coronavirus Disease Outbreak: What Health Care Workers Should Know.](#)

PPE for healthcare facilities

| Health workforce/ patient | Activity/procedure | Type of PPE required |
|------------------------------|---|--|
| Healthcare workers | Preliminary screening not involving direct contact (triage) | <ul style="list-style-type: none"> • Medical mask • Eye protection¹ |
| Healthcare workers | Providing direct patient care | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves • Eye protection |
| Healthcare workers | Entering the isolation area, but not providing direct assistance | <ul style="list-style-type: none"> • Medical mask • Gloves |
| Laboratory technician | Collection of laboratory samples/diagnostic respiratory specimens (e.g. nasopharyngeal swabs) | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves • Eye protection² |
| Healthcare workers | Aerosol generating procedures: <ul style="list-style-type: none"> • intubation, extubation, and related procedures (e.g. manual ventilation) • and open suctioning • cardiopulmonary resuscitation • bronchoscopy (unless carried out through a closed-circuit ventilation system) • surgery and post-mortem procedures in which high-speed devices are used • dental procedures • non-invasive ventilation (NIV) (e.g. bilevel positive airway pressure ventilation ([BiPAP])) • continuous positive airway pressure ventilation (CPAP) • high frequency oscillatory ventilation (HFOV) • induction of sputum (6) | <ul style="list-style-type: none"> • N-95 mask • Gown • Gloves • Eye protection • Apron |

²The use of eye protection is recommended when it is difficult to maintain adequate physical distance (1 –2 meters) or set up physical barriers for triage point.

³If risk of splash, particularly in obtaining and manipulating respiratory samples.

| Health workforce/ patient | Activity/procedure | Type of PPE required |
|---|--|--|
| Administrative staff | Administrative tasks that do not involve contact with COVID-19 patients | <ul style="list-style-type: none"> • Cloth masks (non-medical masks³) |
| Cleaners | <ul style="list-style-type: none"> • Entering a room with a COVID-19 suspected or confirmed case, and routine cleaning of laboratory facilities • Cleaning ambulance after and between transport of patients | <ul style="list-style-type: none"> • Medical mask • Gown • Impermeable apron • Heavy duty gloves • Eye protection • Boots or closed work shoes |
| Healthcare workers and staff (assistants) | Patient transportation inside and outside the treatment facility ¹ (e.g., laboratory and radiology testing, etc.) | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves • Eye protection |
| Healthcare workers and staff (assistants) | Assisting patient being transported to a healthcare facility | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves • Eye protection |
| Driver (ambulance or transfer vehicle) | Driving a transportation vehicle/ ambulance | <ul style="list-style-type: none"> • Medical Mask |
| Patients with respiratory symptoms | | <ul style="list-style-type: none"> • Medical mask (essential) |

In addition to using the appropriate PPE, frequent hand hygiene and respiratory hygiene should always be performed.

- Hand hygiene should be performed before putting on and after taking off PPE.
- Staff should remove all PPE and perform hand hygiene when leaving the patient care area.
- PPE should be discarded in an appropriate waste container after use.
- PPE should not be worn in the nonclinical areas such as staff respite area.
 - o Some items of PPE should be changed after every patient (e.g. gloves to facilitate good hand hygiene).
 - o For healthcare workers who are working in COVID-19 wards or treatment centres, other items of PPE should be changed after each “session” in the treatment area. This includes masks, eye protection, and gowns. These only need to be changed after each patient if they become contaminated with body fluid.

⁴Africa Centres for Disease Control. Guidance on Community Use of Face Masks. Addis Ababa: Africa Centres for Disease Control. 2020.

PPE for evaluating persons under investigation in home settings and management in community settings

| Healthcare worker/ personnel | Activity | Type of PPE required |
|--|---|--|
| Healthcare workers, rapid response team and community health workers | Direct contact when providing care | <ul style="list-style-type: none"> • Medical mask • Gown⁴ • Gloves • Eye protection |
| Rapid response team, contact tracers, healthcare workers, and community health workers | Interviewing and assessing contacts (regardless of symptoms) of confirmed COVID-19 cases, outdoors preferred | <ul style="list-style-type: none"> • Medical mask |
| Healthcare workers, rapid response team, contact tracers, and community health workers | Interviewing and assessing contacts (regardless of symptoms) of confirmed COVID-19 cases, indoors as a last resort | <ul style="list-style-type: none"> • Medical mask • Gloves <p>Gown⁵ Eye protection</p> |
| Healthcare workers | Providing direct care to a COVID-19 patient at home | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves • Eye protection |
| Healthcare workers | Collection of laboratory samples | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves • Eye protection |
| Caregivers | Providing direct care or assistance for patients | <ul style="list-style-type: none"> • Gloves • Medical mask |

⁵Aprons may be safely substituted for gown in situations where minimal person to person contact is envisaged. Exposed arms should be sanitized using alcohol-based hand rub if sleeveless aprons are used.

PPE for safe vaccination administration

| Healthcare worker/ personnel | Activity | Type of PPE required |
|--|---|--|
| Healthcare workers | Direct contact when administering vaccines | <ul style="list-style-type: none"> • Medical mask • Hand hygiene⁵ • Eye protection |
| Healthcare workers, community health workers | Preliminary screening not involving direct contact (triage) prior to vaccine administration | <ul style="list-style-type: none"> • Medical mask • Eye protection² |
| Crowd managers | Outdoor crowd management | <ul style="list-style-type: none"> • Medical mask (if indoors, eye protection should also be used) |



⁶Perform hand hygiene after each recipient with soap and water or hand sanitizer containing 60%–80% alcohol. Use gloves (non-sterile) only if there is risk of direct contact with blood and body fluids, nonintact skin is anticipated (e.g., rash, lesion, cut), as indicated by risk assessment conducted before every interaction with recipients. If gloves are used, the vaccinator must change them between each recipient, dispose of them in a bin with a lid, and perform hand hygiene.

PPE for drive-through mobile laboratory

| Healthcare worker/ personnel | Activity | Type of PPE required |
|---|---|---|
| Traffic control (volunteer or community health workers) | Checking in the PUI. Hold a sign telling the patient not to roll down the window until at the sampling station. Direct patient to sampling station. | <ul style="list-style-type: none"> • Medical mask |
| Healthcare workers, community health workers | Swabber taking the sample | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves* • Eye protection |
| Healthcare workers and community health workers | Assisting the swabber | <ul style="list-style-type: none"> • Medical mask • Gown • Gloves* • Eye protection |
| Caregivers | Providing direct care or assistance for patients | <ul style="list-style-type: none"> • Gloves • Gown • Medical mask |

**For these roles one pair of gloves is the minimum necessary, however, gloves should be doffed after each patient and hands should be washed or sanitized.*

Special considerations

- If anyone inside the participant vehicle rolls down the window before instructed, any workers in the vicinity should step back 2 metres and instruct the participant to roll the window back up. If 2 metres is not feasible due to space constraints, a minimum of 1 metre should be maintained.
- If anyone inside the participant vehicle exits the car, any workers in the vicinity should step back and maintain at least 2 metres distance and instruct the participant to get back inside the vehicle. If 2 metres is not feasible due to space constraints, a minimum of 1 metre should be maintained.
- At no point should there be any contact with the participant or anyone from the vehicle. If any accidental exposure has occurred, they should doff any affected PPE and don fresh PPE.

PPE for autopsy and burial

General consideration

Except in cases of viral hemorrhagic fevers (such as Ebola and Marburg) and cholera, dead bodies are generally not infectious. Only the lungs of patients with pandemic influenza, if handled improperly during an autopsy, can be infectious. Otherwise, cadavers do not transmit disease.

To date, there is no evidence of persons having become infected from exposure to the bodies of persons who died from COVID-19.

The safety and well-being of everyone who attends to bodies should be the first priority. Before attending to a body, people should ensure that the necessary hand hygiene and PPE supplies are available.

While performing the rites during the burial, it is important that social distancing is maintained. The dignity of the dead, their cultural and religious traditions, and their families should be respected and protected throughout.

| Key personnel | Activity | Type of PPE required |
|----------------------------------|---|--|
| Healthcare workers/ Mortician | Preparing the body for transfer from a patient's room to an autopsy unit, mortuary, crematorium, or burial site | <ul style="list-style-type: none">• Disposal (heavy duty) gloves• Long sleeved gown• Medical mask• Eye protection**2 |
| Healthcare workers | Autopsy | <ul style="list-style-type: none">• Disposal gloves• Long sleeved gown• Medical mask• N95 to be worn if there are any aerosol-generating procedures during the autopsy.• Face shield• Rubber gloves• Apron |
| Mortician/ mortuary attendant | Mortuary care | <ul style="list-style-type: none">• Disposal gloves• Long sleeved gown• Medical mask• Face shield |
| Mortician/ family members | Religious observation—care of body by family members, e.g., body washing | <ul style="list-style-type: none">• Disposal gloves• Long sleeved gown or apron• Medical mask• Eye protection• Face shield |

***If risk of splash, particularly when manipulating the body.*

- Adhere to the national and local requirements that dictate the handling and disposition of the remains.
- A minimum number of people should be involved in the preparations. Those preparing the body for viewing and burial should wear PPE. Others may observe without touching the body at a distance of 2 metres. If 2 metres is not feasible due to space constraints, a minimum of 1 metre should be maintained.
- Family and friends may view the body after it has been prepared for burial, in accordance with customs. They should not kiss the body, but the body maybe touched if gloves are worn. Family and friends must wash hands thoroughly with soap and water after the viewing.
- Those tasked with placing the body in the grave, on the funeral pyre, etc., should wear gloves and wash hands with soap and water after removal of the gloves once the burial is complete.



Standards for PPE

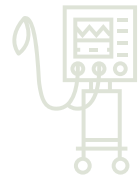
All PPE should conform to specific standards to ensure that it is able to protect healthcare workers as intended.

Here is a more detailed description and standards for each of the items of PPE listed above.

| Item | Description | Relevant testing standards |
|---------------|---|--|
| Medical masks | Medical mask, good breathability, internal and external faces should be clearly identified | <ul style="list-style-type: none"> • EU MDD Directive 93/42/EEC Category III, or equivalent, • EN 14683 Type II, IR, IIR • ASTM F2100 minimum Level 1 or equivalent |
| Respirators | N95 or FFP2 respirator, or higher (N99 or FFP3). Good breathability with design that does not collapse against the mouth. May or may not have an exhalation valve. | <ul style="list-style-type: none"> • Minimum "N95" respirator according to FDA Class II, under 21 CFR 878.4040, and CDC NIOSH, or • Minimum "FFP2" according to EN 149, EU PPE Regulation 2016/425 Category III, or equivalent |
| Gown | Single use or reusable, disposable, length mid-calf. | <ul style="list-style-type: none"> • EU PPE Regulation 2016/425 and EU MDD directive 93/42/EEC • FDA class I or II medical device, or equivalent • EN 13795 any performance level, or • AAMI PB70 all levels acceptable, or equivalent |
| Apron | Straight apron with bib. Fabric: 100% polyester with PVC coating, or 100% PVC, or 100% rubber, or other fluid resistant coated material, waterproof, sewn strap for neck and back fastening. Minimum basis weight: 300 g/m ² covering size: 70–90 cm (width) X 120–150 cm (height). Reusable (provided appropriate arrangements for decontamination are in place). | <ul style="list-style-type: none"> • Acceptable standards • EN ISO 13688 • EN 14126-B and partial body protection (EN 13034 or EN 14605) • EN 343 for water and breathability or equivalent |

| Item | Description | Relevant testing standards |
|----------------------------|---|---|
| Gloves | Gloves, examination, nitrile, powder-free, non-sterile. (eg., minimum 230 mm total length. Sizes, S, M, or L per box of 100.) | <ul style="list-style-type: none"> • EU MDD Directive 93/42/EEC Category III • EU PPE Regulation 2016/425 Category III • EN 455 • EN 374 • ANSI/ISEA 105 • ASTM D6319, or equivalent set of standards |
| Heavy duty gloves/disposal | Outer glove should have long cuffs, reaching well above the wrist, ideally to mid-forearm. Cuff length preferably reach mid-forearm (eg., minimum 280 mm total length. Sizes S, M, or L). Reusable. | <ul style="list-style-type: none"> • Puncture resistant, FDA compliant EN374 |
| Boots or closed-toe shoes | Reusable sizes 40, 41,42, 43, or 44 | |
| Goggles | Good seal with the skin of the face, flexible PVC frame to easily fit with all face contours with even pressure, enclose eyes and the surrounding areas, accommodate wearers with prescription glasses, clear plastic lens with fog and scratch resistant treatments, adjustable band to secure firmly so as not to become loose during clinical activity, indirect venting to avoid fogging, may be reusable (provided appropriate arrangements for decontamination are in place) or disposable. | <ul style="list-style-type: none"> • EU PPE Regulation 2016/425 • EN 166 • ANSI/ISEA Z87.1, or equivalent |

| Item | Description | Relevant testing standards |
|-------------|---|--|
| Face shield | Made of clear plastic and provides good visibility to both the wearer and the patient, adjustable band to attach firmly around the head and fit snugly against the forehead, fog resistant (preferable), completely cover the sides and length of the face, may be reusable (made of robust material which can be cleaned and disinfected) or disposable. | <ul style="list-style-type: none"> • EU PPE Regulation 2016/425 • EN 166 • ANSI/ISEA Z87.1, or equivalent set of standards |
| Scrubs | Tunic/tops and trouser/pants, woven, scrubs, reusable, short sleeved (tunic/tops), and worn underneath the coveralls or gown. | <ul style="list-style-type: none"> • Uniform, Cotton, Unisex, V-neck medical tops with side slits • Quick dry, blue/red/green, Medical purpose |

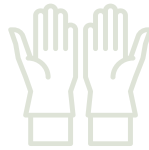


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^hMovement of patients should be limited



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