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MINISTRY OF HEALTH - ETHIOPIA  
የዜጎች ጤና ለሃገር ብልጽግና!  
HEALTH FOR PROSPERITY



# Infection Prevention and Control Interim Protocol for COVID-19 In Health Care Settings in Ethiopia

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April, 2020

## 1. Introduction

Coronavirus disease -2019 (COVID-19) is an infectious disease caused by SARS COV-2 .It was first detected in Wuhan city, China in December 2019.

The disease was declared as Public Health Emergency of International Concern and then pandemic on Jan 30, 2020 and March 11, 2020 respectively.

In Ethiopia, in response to the outbreak, Emergency operating centers were activated at a Public Health Emergency of International Concern. National and regional public health institutes.

This protocol is therefore developed to guide leaders and managers at all level, health professionals, other support staffs, relevant stakeholders who are working in response to COVID-19. It is developed considering the WHO recommendation and national context.

## 2. General Precautions

- Ensure physical distancing of at least 1meter
- Avoid hand shaking
- Wash hands thoroughly with soap and water or apply Alcohol based hand rub (See Annex 1) before touching a patient, before aseptic procedures, after body fluid exposure, after touching patients' surroundings)
- Respiratory hygiene should be implemented including covering mouth during coughing and sneezing with tissue or flexed elbow.
- Avoid touching eyes, nose or mouth with potentially contaminated hands.
- Use appropriate PPE whenever needed (based on IPC risk assessments )
  - Ensure proper donning and doffing of PPE (See Annex 2)
  - Ensure appropriate disposal of used disposable PPEs in biohazard bags.

## 3. Infection Prevention and Control in Different settings

### 3.1 Rapid Response Team (RRT) & Contact Tracing Team

- Each team member should be familiar with rational, correct, and consistent use of PPE.
- Ensure that all the necessary IPC supplies such as hand sanitizer and disinfectant, PPE and biohazard bag are available in the Vehicle before departure.
- Wear appropriate Personal Protective Equipment i. e
- If the suspect/confirmed case is stable and needs no assistance, the team should use surgical mask and glove while interviewing the case and taking temperature.
- If the suspect/confirmed case needs assistance and physical contact is mandatory, the team members involved in the physical contact should wear glove, surgical mask, gown and goggle.
- A team member involved in taking sample should wear glove, N-95 respirator, goggle, long sleeved gown and Apron if there is a risk of splash

- After investigation ensure disinfection of temperature monitoring devices, any reusable Personal Protective Equipment and any other non-critical equipment using 70% Alcohol based Swabs using new gloves.
- Disinfect Ambulances with 0.5% chlorine solution if there is vomitus or other body fluids  
use 2 %

### 2.3 Isolation and Treatment Centers

- In addition to Standard Precautions, all health care workers should apply Contact and Droplet Precautions.
- Ensure each suspected case is placed in single ventilated room (If single room is not possible keep with minimum 1 m distance )
- **NEVER** place suspected cases with confirmed patients
- Ensure appropriate and rational use of PPE
  - Health care workers involved in direct care of COVID-19 patient/suspect, should wear Gown, Surgical mask, Glove and Goggle
  - Health care workers involved in aerosol generating procedures should wear N-95 respirator, Gown, Glove and Eye goggle
  - Cleaners should wear Gown, Medical mask, Heavy duty glove, boots/closed shoes, eye goggle if risk of splash
- Ensure health workers and support staffs are familiar on rational, correct, and consistent use of PPE and IPC measures.
- Use either single use disposable equipment or dedicated equipment for each patient (e.g. stethoscopes, blood pressure cuffs and thermometers).If equipment need to be shared among patients, clean and disinfect between each patient use (e.g. use ethyl alcohol 70%).
- Ensure proper IPC protocols are followed during laboratory sample collection and transport (See Annex 3)
- Avoid the movement and transport of patients out of the isolation room or area unless medically necessary. If available, use designated portable X-ray equipment and/or other important diagnostic equipment.
- If transport is required, use pre-determined transport routes in the ward to minimize exposures to staff, other patients and visitors and apply medical mask to patient.
- Notify the receiving area of necessary precautions as soon as possible before the patient's arrival
- Ensure routine environmental cleaning and patient-contact surfaces using 0.5% chlorine Solution and disinfect non-critical equipment using 70% alcohol.
- Ensure standard health-care waste management practices SOP(See annex 4 SOP on Waste management in health care settings )
- Ensure Visual aids for COVID-19 are posted.

## **IPC measures in health care Facilities**

### **1. Ensuring triage, early recognition, and source control.**

Clinical triage includes a system for assessing all patients at admission, allowing for early recognition of possible COVID-19 and immediate isolation of patients with suspected disease in an area separate from other patients (source control).

To facilitate the early identification of cases of suspected COVID-19, health care facilities should:

- Encourage health care workers to have a high level of clinical suspicion;
- Establish a well-equipped triage station (PPE, Non –Contact Thermometer hand washing facility & other supplies) at the entrance to the facility, supported by trained staff
- Institute the use of screening questionnaires according to the updated case definition.
- Post signs in public areas reminding symptomatic patients to alert Health care workers and essential preventive measures.

### **2. Applying standard precautions for all patients**

#### **Respiratory hygiene:**

- Ensure that all patients cover their nose and mouth with a tissue or elbow when coughing or sneezing;
- Offer a medical mask to patients with suspected COVID-19 while they are in waiting/public areas or in Cohorting rooms
- Perform hand hygiene after contact with respiratory secretions.

#### **Hand hygiene:**

- Health care workers should apply WHO's 'My 5 Moments of Hand Hygiene '
  - Before touching a patient
  - Before any clean or aseptic procedure is performed
  - After exposure to body fluid
  - After touching a patient
  - After touching a patient's surroundings.
- Hand hygiene includes either cleansing hands with an alcohol-based hand rub or with soap and water or 0.05 % chlorine solution.

- Alcohol-based hand rubs are effective if hands are not visibly soiled
- Wash hands with soap and water when they are visibly soiled

### **Personal Protective Equipment**

- The rational, correct, and appropriate use of PPE also helps reduce the spread of pathogens

## **Implementing empiric additional precautions**

### **3.1 Contact and droplet precautions**

- In addition to using standard precautions, all individuals, including family members, visitors and HCWs, should use contact and droplet precautions before entering the room of suspected or confirmed COVID-19 patients
- Patients should be placed in adequately ventilated single rooms. For general ward rooms with natural ventilation, adequate ventilation is considered to be 60 L/s per patient
- When single rooms are not available, Patients suspected of having COVID-19 based on risk considerations may be grouped
- All patients' beds should be placed at least 1 meter apart regardless of whether they are suspected to have COVID-19
- Assign dedicated team to care exclusively for suspected or confirmed cases to reduce the risk of transmission
- HCWs should use appropriate PPE (medical masks, goggles or face shield, a clean non-sterile long-sleeved gown, glove) to avoid contamination of mucous membranes
- The use of boots, coverall, and apron is not required during routine care.
- Change gloves and practice hand hygiene between patients.
- After patient care, appropriate doffing and disposal of all PPE and hand hygiene should be carried out.
- In events of incidents (splashes of body fluid, unexpected exposure...) change new set of PPE as required.
- Equipment should be either single-use or disposable or dedicated equipment (e.g. stethoscopes, blood pressure cuffs and thermometers). If equipment needs to be shared among patients, clean and disinfect it between use for each individual patient (e.g. by using ethyl alcohol 70%)
- HCWs should avoid touching eyes, nose, or mouth with potentially contaminated gloved or bare hands
- Avoid moving and transporting patients out of their room or area unless medically necessary.
- Use designated portable X-ray equipment or other designated diagnostic equipment. If transport is required, use predetermined transport routes to minimize exposure for staff, other patients and visitors, and have the patient wear a medical mask;

- Ensure that HCWs who are transporting patients perform hand hygiene and wear appropriate PPE as described in this section
- Notify the area receiving the patient of any necessary precautions as early as possible before the patient's arrival
- Routinely clean and disinfect surfaces with which the patient is in contact
- Limit the number of HCWs, family members, and visitors who are in contact with suspected or confirmed COVID-19 patients;
- Maintain a record of all persons entering a patient's room, including all staff and visitors

### **3.2 Airborne precautions for aerosol-generating procedures.**

Some aerosol-generating procedures, such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy, have been associated with an increased risk of transmission of coronaviruses.

#### **Ensure that HCWs performing aerosol-generating procedures:**

- Perform procedures in an adequately ventilated room – that is, natural ventilation with air flow of at least 160 L/s per patient or in negative- pressure rooms
- Use a particulate respirator at least as protective as a US National Institute for Occupational Safety and Health (NIOSH)-certified N95, European Union (EU) standard FFP2, or equivalent. When HCWs put on a disposable particulate respirator, they must always perform the seal check. Note that facial hair (e.g. a beard) may prevent a proper respirator fit
- Use eye protection (i.e. goggles or a face shield)
- Wear a clean, non-sterile, long-sleeved gown and gloves. If gowns are not fluid-resistant, HCWs should use a waterproof apron for procedures expected to create high volumes of fluid that might penetrate the gown
- Limit the number of persons present in the room to the absolute minimum required for the patient's care and support.

### **4. Implementing administrative controls**

Administrative controls and policies for the prevention and control of transmission of COVID-19 within the health care setting include, but may not be limited to:

- Establishing sustainable IPC infrastructures and activities
- Educating patients' caregivers; developing policies on the early recognition of acute respiratory infection potentially caused by COVID-19 virus
- Ensuring access to prompt laboratory testing for identification of the etiologic agent;
- Preventing overcrowding, especially in emergency departments
- Providing dedicated waiting areas for symptomatic patients
- Appropriately isolating hospitalized patients;

- Ensuring adequate supplies of PPE and ensuring adherence to IPC policies and procedures for all aspects of health care.

#### **4.1 Administrative measures related to health care workers.**

- Provision of adequate training for HCWs
- Ensuring an adequate patient-to-staff ratio
- Establishing a surveillance process for acute respiratory infections potentially caused by COVID-19 virus among HCWs
- Ensuring that HCWs and the public understand the importance of promptly seeking medical care
- Monitoring HCW compliance with standard precautions and providing mechanisms for improvement as needed.

### **5. Using environmental and engineering controls**

These controls address the basic infrastructure of the health care facility and aim to ensure adequate ventilation in all areas in the health care facility, as well as adequate environmental cleaning. Additionally, separation of at least 1 meter should be maintained between all patients. Both spatial separation and adequate ventilation can help reduce the spread of many pathogens in the health care setting.

Ensure that cleaning and disinfection procedures are followed consistently and correctly. Cleaning environmental surfaces with water and detergent and applying commonly used hospital disinfectants (such as sodium hypochlorite) is effective and sufficient. Manage laundry, food service utensils and medical waste in accordance with safe routine procedures.

#### **Duration of contact and droplet precautions for patients with COVID-19.**

Standard precautions should be applied at all times. Additional contact and droplet precautions should continue until the patient is asymptomatic. More comprehensive information about the mode of virus transmission is required to define the duration of additional precautions

### **Recommendation for outpatient care**

The basic principles of IPC and standard precautions should be applied in all health care facilities, including outpatient care and primary care.

For COVID-19, the following measures should be adopted:

- Triage and early recognition;

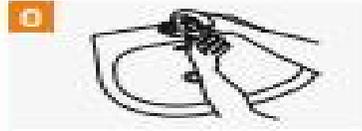
- Emphasis on hand hygiene, respiratory hygiene, and medical masks to be used by patients with respiratory symptoms;
- Appropriate use of contact and droplet precautions for all suspected cases
- Prioritization of care of symptomatic patients
- When symptomatic patients are required to wait, ensure they have a separate waiting area.
- Educate patients and families about the early recognition of symptoms, basic precautions to be used, and which health care facility they should go to. Mission is required to define the duration of additional precautions.

## **Annex 1: Hand Washing Steps & Alcohol based hand rub**

### **A. Hand Washing Steps**

## Hand Hygiene Technique with Soap and Water

**⌚** Duration of the entire procedure: 40-60 seconds



Wet hands with water;



Apply enough soap to cover all hand surfaces;



Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Rinse hands with water;



Dry hands thoroughly with a single use towel;



Use towel to turn off faucet;



Your hands are now safe.

## B. Alcohol formulation

### Hand Hygiene Technique with Alcohol-Based Formulation

**3** Duration of the entire procedure: 20-30 seconds



Apply a palmful of the product in a cupped hand, covering all surfaces;



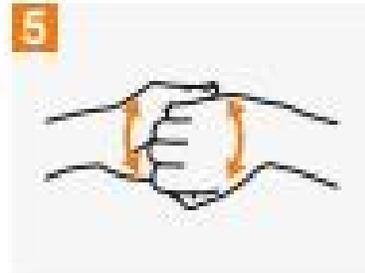
Rub hands palm to palm;



Right palm over left dorsum with interlaced fingers and vice versa;



Palm to palm with fingers interlaced;



Backs of fingers to opposing palms with fingers interlocked;



Rotational rubbing of left thumb clasped in right palm and vice versa;



Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



Once dry, your hands are safe.

## C. Hand Rub steps

### Annex 2: Proper donning and Doffing of PPE

#### *Proper donning sequence includes:*

1. Wash your hands if visibly soiled, if visibly clean use ABHR
  2. Wear disposable gowns
  3. Wear surgical Mask ( N-95 masks use is recommended for aerosolizing procedures)
  4. Wear Google
  5. Wear gloves
- ❖ Refrain from touching any other surfaces with gloved hands

**How to put on PPE (when all PPE items are needed)**

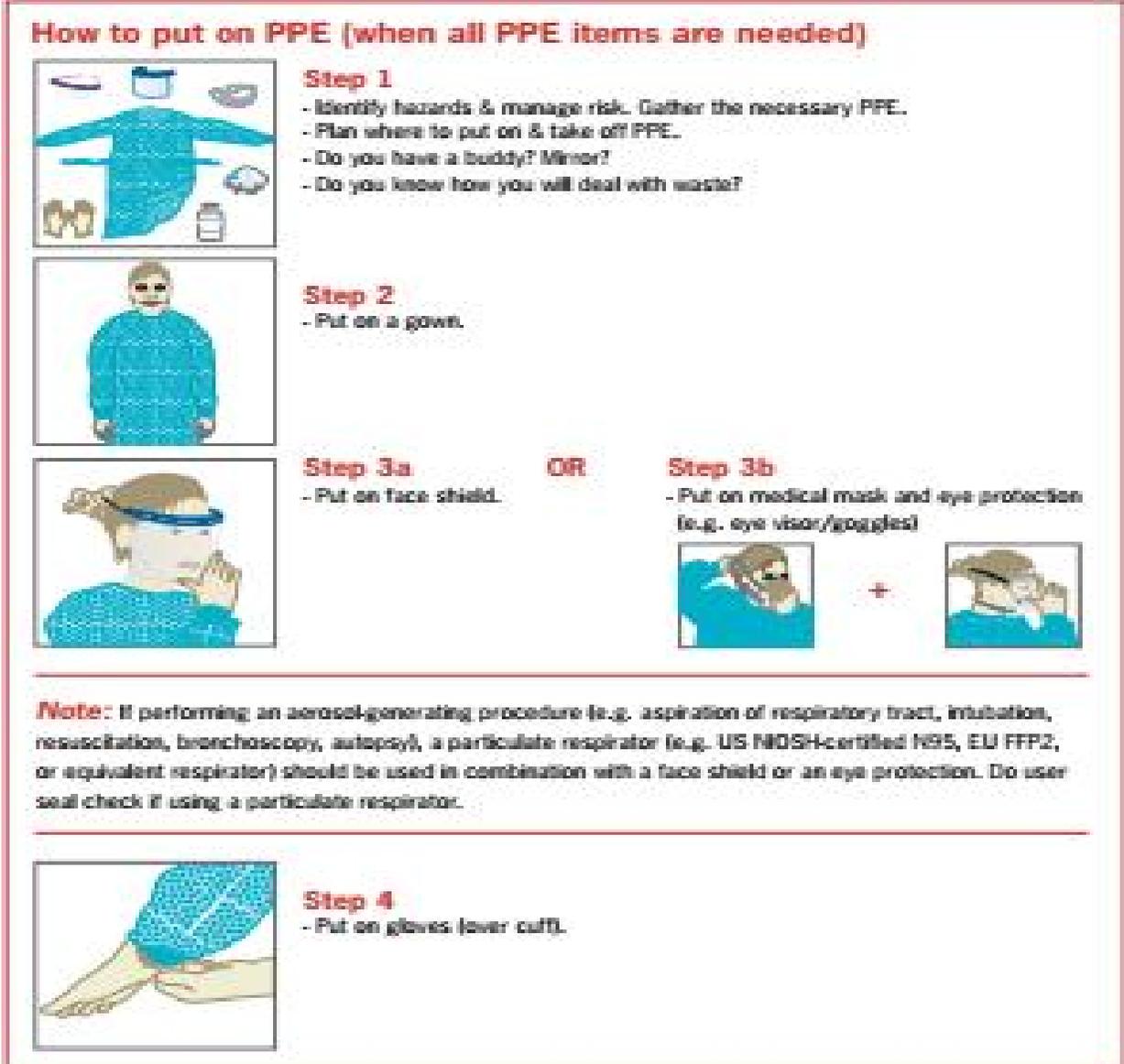
**Step 1**  
- Identify hazards & manage risk. Gather the necessary PPE.  
- Plan where to put on & take off PPE.  
- Do you have a buddy? Mirror?  
- Do you know how you will deal with waste?

**Step 2**  
- Put on a gown.

**Step 3a** OR **Step 3b**  
- Put on face shield. OR - Put on medical mask and eye protection (e.g. eye visor/goggles)

**Note:** If performing an aerosol-generating procedure (e.g. aspiration of respiratory tract, intubation, resuscitation, bronchoscopy, autopsy), a particulate respirator (e.g. US NIOSH-certified N95, EU FFP2, or equivalent respirator) should be used in combination with a face shield or an eye protection. Do user seal check if using a particulate respirator.

**Step 4**  
- Put on gloves (over cuff).



**Proper doffing sequence includes:**

1. Remove the disposable gown with your gloves and put in a biohazard bag
2. Wash hands or use Alcohol based hand rub (ABHR)
3. Remove goggles then hand-hygiene with ABHR
4. Remove masks
5. Wash hands with running water and soap or use ABHR if visibly clean

**How to take off PPE**



**Step 1**

- Avoid contamination of self, others & the environment
- Remove the most heavily contaminated items first

**Remove gloves & gown**

- Peel off gown & gloves and roll inside, out
- Dispose gloves and gown safely



**Step 2**

- Perform hand hygiene



**Step 3a**

**If wearing face shield:**

- Remove face shield from behind
- Dispose of face shield safely



**Step 3b**

**If wearing eye protection and mask:**

- Remove goggles from behind
- Put goggles in a separate container for reprocessing
- Remove mask from behind and dispose of safely



**Step 4**

- Perform hand hygiene

## Annex 3: Laboratory sample collection and Transport

### Sample Transportation

- Ensure that personnel who transport specimens are trained in safe handling practices and spill decontamination procedures
- Follow the requirements in the national or international regulations for the transport of dangerous goods (infectious substances) as applicable
- Deliver all specimens by hand whenever possible. Do not use pneumatic-tube systems to transport specimens
- Notify the receiving laboratory as soon as possible that the specimen is being transported.
- Packaging and shipment to another laboratory Transport of specimens within national borders should comply with applicable national regulations
- International Transport Regulations: COVID-19 specimens should follow the UN Model Regulations for international transportations
- Effective usage of Global Laboratory Networking Timely and accurate laboratory testing of specimens from cases under investigation is an essential part of the management of emerging infections.

