



REPÚBLICA DEMOCRÁTICA DE TIMOR-LESTE
MINISTÉRIU da SAÚDE

Pocket Book

**Covid-19
Infection Prevention
& Control Practices manual
for Isolation Centre
in Timor-Leste**



Servisu Sekretariadu
Covid - 19 IPC Pilar VI



Preface

Ministry of Health, Timor-Leste has already been engaged in varying capacities and strengths to implement infection prevention and control (IPC) initiatives for COVID-19 management. In line with that, a guideline for IPC practices for Covid-19 in Timor-Leste was developed in 2020 which guided relevant personnel in practicing standard infection prevention and control (IPC) measures in order to break the chain of infection transmission by COVID-19 virus.

However, with recent surge in COVID-19 cases, the IPC practices in isolation center turned into a priority to handle. Therefore, a pocket book with a simplified summary for managing IPC in the isolation centers was prepared to highlighting the important areas for IPC practices.

The pocket book has been developed in line with the original guideline for IPC practices for COVID-19 in Timor-Leste and further adjusted according to the recent changes in the global guidelines. It will be a handy supplement for the workers in the isolation centers for practicing the IPC within their work context.

The process of developing this SOP was under the auspices of Cabinet of Quality Assurance in Health (CQAH), which is the secretariat of pillar 6, the important IPC unit of covid-19 management teams of the Ministry of Health. The pocket book has been designed to explain in a simpler form addressing the practical and achievable ways of IPC implementation in Timor-Leste. The target audiences of this SOP will be the health care staffs, managers of the isolation center. Further support for the actual implementation of the guideline will be provided by the relevant and linked departments.

This has been a very timely approach to have a manual for IPC practice in isolation center settings for prevention of infection transmission of covid-19. I am much convinced that this guideline will be a handy supplement for the staffs in isolation center to practice IPC.



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Abbreviations

IPC	Infection prevention and control practices
SOP	Standard Operating procedure
MOH	Ministry of Health
PPE	Personal Protective Equipment
HW	Health worker

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Introduction

Isolation is used to separate people infected with COVID-19 from those who are not infected. Also, IPC is evidence based intervention and requires attitudinal change and behavior modification while implementing. Not all coronavirus patients develop severe symptoms; only 80% of COVID-19 cases have mild or moderate symptoms according to World Health Organization (WHO) estimates¹. Treatment for mildly to moderately ill patients may not require hospitalization. Isolation center has been designed to make sure the isolation process is well followed until the patients turns non-infectious. At the time of release of this guidance, there are few isolation centers in Timor-Leste. The plan for constructing more isolation centers are ongoing some of which are functional by now, located in the border areas. It has become increasingly important to make sure that the infection prevention and control measures in the isolation centers are maintained.

I. IPC measures around the entrance

In the isolation center, the entrance area is crucial as the COVID-19 patients pass through this area and there is increased chance of transmission of infection. Therefore, the IPC measures are to be strengthened at that point. During the entry, expert and trained healthcare staffs should be engaged for quick passage of the patient ensuring the standard and additional precautions at all time. At this time, the healthcare staffs should have a distance of at least 1-2 meters from patients, ideally with a separation created by a glass/plastic screen. If that is not possible, mask and eye protection should be worn. The patient should be provided with appropriate PPE and be counseled on the precautionary measures during the time of his staying in the isolation center.

¹ <https://www.who.int/publications/i/item/10665-331492>

II. Implementation of standard precautions

The isolation area should have displayed information on IPC so that the patients are reminded on the precautionary measures on hand hygiene and respiratory hygiene that are to be followed at all time. There should be dedicated toilets, hand hygiene stations, and trash bins with lid for patient's using. Staff and patients should never share toileting, kitchen or rest areas. If soap and water are not possible, a 70% alcohol-based hand rub should be used.

Standard precautions are a set of practices that must be in place for patients to prevent transmission of infection in any given settings. These precautions depend on health worker-patient interaction nature and anticipated exposure to a known infectious agent².

Particularly important for COVID-19 preventions are the following elements: physical distancing hand hygiene, respiratory hygiene, appropriate personal protective equipment (PPE) usage, environmental cleaning and disinfection/sterilization of medical equipment and surroundings³, injection safety practices, safe waste management, linen management.

The short summary of the standard precautions elements are described below:

Physical distancing

Physical distancing is a very important aspect required to be maintained in the isolation center, Healthcare staffs should maintain distance of at least 1 meter from patients, ideally with a separation created by a glass/plastic screen. If 1-meter distance not possible, then mask and eye protection should be worn for protection.

² <https://www.cdc.gov/coronavirus/2019-ncov/hcp/non-us-settings/overview/index.html>

³ <https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC-2020.4>

Hand hygiene

Hand hygiene is a critical component, and arguably the most important, of reducing infection transmission especially for management of COVID-19 infections. All staffs, caregivers and patient should practice rigorous hand hygiene continuously around environment where COVID-19 suspected AND/OR confirmed cases are screened or isolated Healthcare staffs require following the concept 'My five moments for hand hygiene'⁴

When to practice hand hygiene?

When exposed to a COVID-19 patient:

- Before and after touching a patient
- Before any clean or aseptic procedure is performed
- After exposure to patient's body fluid
- After touching a patient's surroundings
- After touching common surfaces used by the isolated person or his immediate environment

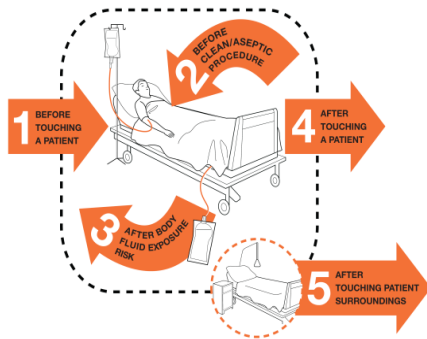


Figure 1: Five moments of hand hygiene

During routine activities in the isolation center:

- At the time of removal of personal protective equipment (PPE)
- After decontamination of equipment
- During and after the waste management practices
- Before and after preparing food, before eating
- After coughing or sneezing
- After using toilets

⁴ https://www.who.int/gpsc/tools/Five_moments/en/

How to practice handwashing?

Rigorous hand hygiene requires to be followed in isolation centers. Running water is important in this regards but should not be a constraint. If the healthcare facility does not have running water, hand hygiene can still be implemented.

Locations of HH stations in an isolation center

- Each entry point into the isolation center
- Outside the isolation room/ward
- Toilet entrances
- Service delivery areas
- Laundry, kitchen

Hand Hygiene maintenance

- Arrange sufficient stocks of handwashing materials
- Assign a focal person/ a team to observe Hand Hygiene practice
- Ensure regular checking on functional HW stations, water availability
- Arrange displayed poster on HH at the HH stations.

Serial	Handwashing material	Precautions during practice	Drying Practice
1	Soap and water	Atleast 40 seconds	Disposable paper towels for drying/ clean cloth towels
2	Alcohol-based hand rub (at least 70% alcohol)	Atleast 20 seconds	
3	Liquid soap	Each time 2-3 ml (roughly 2-3 pumps) to be used from the dispenser bottle	Disposable paper towels for drying/ clean cloth towels
4	Bar soap	Bar soaps must be maintained in a dry area	Disposable paper towels for drying/ clean cloth towels
5	Chlorinated water (0.05%)	At least 20 seconds	Disposable paper towels for drying/ clean cloth towels

*Table 1: Handwashing options at different situations *adapted from WHO guidelines on hand hygiene in healthcare settings*

Respiratory hygiene

All providers, patients and caregivers must be aware and maintain respiratory hygiene which is very crucial in preventing the spread of respiratory infections including COVID-19.

The slogan “catch it, bin it, kill it” slogan⁵ has been used for public campaigning by the British Government to provide a simple message for respiratory hygiene maintenance.

1. Catch it: Use tissue to catch a cough or sneeze
2. Bin it: Dispose the tissue immediately in a bin
3. Kill it: Kill viruses by hand hygiene practice

⁵ <https://www.infectionpreventioncontrol.co.uk/resources/catch-it-bin-it-kill-it-poster/>



Figure 2: Catch it Bin it kill it' poster

General measures of respiratory hygiene for all

- During sneezing, coughing, or blowing nose all individuals working in the isolation center require covering their nose and mouth using tissue or elbow, dispose those in nearest waste-bins and perform hand hygiene (following 'Catch it, bin it, kill it' slogan)
- Face away from others when coughing/sneezing
- Perform hand hygiene each time after coughing, sneezing, or touching any surface with respiratory secretion
- Practice avoiding sneezing, coughing in a public place (except isolation area) as much possible

Specific measures of respiratory hygiene for the COVID-19 patient

- Patients should use medical masks (or cloth masks) for wearing

- Patients should be asked to perform hand hygiene after contact with respiratory secretions or objects that may be potentially contaminated with respiratory secretions
- Symptomatic elderly/immobile patients can be given plastic bags or container to confine the respiratory secretion

Logistic aspect for respiratory hygiene maintenance

- Arrange sufficient stocks of disposable, single-use tissues (or in case of unavailability, use cut pieces of cloth for single time use)
- Arrange appropriate waste-bin (lined and foot operated) throughout the center
- Assign a focal person/ a team to observe respiratory hygiene practice as a whole

Use of appropriate personal protective equipment (PPE)

PPEs are special coverings designed to protect healthcare workers from exposure to or contact with infectious agents. Some PPE may be disposable and some may be reused. In general, HW should always use medical masks, gowns, gloves, and eye protection (goggles or face shield) as PPE while contacting the suspected or confirmed COVID-19 patients⁶. Use of a risk assessment tool is helpful at this point.

General rules for wearing PPE

- Always perform hand hygiene before and after use of PPE
- Before putting PPE on, always inspect it to make sure it is not compromised or out of date.
- Check PPE sizes, it should fit well.

⁶ Infection prevention and control of epidemic-and pandemic-prone acute respiratory infections in health care. Geneva: World Health Organization; 2014 (accessed 27 February 2020).

- Always perform a **RISK ASSESSMENT** before selecting the appropriate PPE for patient care
- Always put the appropriate PPE on before contacting the patient.
- Immediately after patient contact, remove PPE and dispose it in a waste bin.
- After putting on PPE, inspect (either in a mirror or via a colleague) to ensure that all PPE is correctly placed and secured.
- Once PPE is on and patient care activities have commenced, PPE **CANNOT BE ADJUSTED OR TOUCHED**, especially caution to be maintained on the following aspects:
 - Never touch face while wearing PPE
 - If PPE becomes contaminated or breached, immediately leave the patient care area when safe to do so, and take off the PPE correctly and replace it with new PPE
 - Always remove PPE carefully, slowly, and in the correct order to avoid self-contamination, especially when taking off a medical and/or N-95 mask
 - Disposable, single-use PPE should always to be used when available
 - PPE should not be re-used
 - If PPE shortages are becoming a problem, PPE use may be extended, reprocessed, and/or exchanged for another PPE item

How to use mask?

All providers must wear medical masks when entering a room where patients with suspected or confirmed COVID-19 are residing.

Key points on mask management

Appropriate use and disposal of mask is essential to avoid possible transmission.

- Masks to be worn in a way to cover the nose and mouth all time and tied securely to minimize any gaps between the face and the mask
- Masks are not to be touched while on wearing. If the mask is touched or adjusted, hand hygiene must be performed immediately.
- While damp, the mask requires be immediately replaced by a new, dry one
- Single-use masks should not be reused
- Discard single-use masks after each use and dispose of them immediately upon removal.
- Cloth (e.g. cotton or gauze) masks are not recommended, under any circumstances, by health workers on duty.
- Medical masks can be used without removing for up to 6 hours when caring for a cohort of patients with COVID-19

Mask use by symptomatic patients

- Patients should wear a medical mask at entrance or any sort of movement within the isolation area
- A disposable paper tissue can serve as an alternative to masks when coughing or sneezing if in case the masks are not available. Tissue must be disposed of immediately into the rubbish bin and hand hygiene preformed afterwards.
- Patients are to wear medical masks when in isolation ward/room or in a waiting area
- Patients do not require wearing medical masks when they reside in single isolation rooms for them but covering mouth and nose at times of coughing or sneezing using disposable paper tissues is advisable. Tissues must be disposed of appropriately, and hand hygiene should be performed immediately afterwards.

Removal criteria

- Follow safe procedures for removal and do not touch the front of the mask
- if the mask is touched/adjusted, hand hygiene must be performed immediately
- Mask must be changed in they become wet, soiled or damaged; difficult to breathe through; exposed to a splash of chemicals, infectious substances or body fluids; or have been removed for any reason, including when drinking fluids or eating meals
- A new medical mask should be worn when providing care outside of a designated cohort of patients with COVID-19.
- Use of the same medical mask by a health care worker between a patient with COVID-19 and a patient who does not have COVID-19 is not recommended owing to the risk of transmission.

Key points on using gloves

Disposable gloves are to be used, especially at the time of providing direct care to the patient or at the time of being exposed to blood and/or other body fluids. Gloves must be changed immediately following the care episode. If body fluids (e.g, oral or respiratory secretions, stools) are handled, disposable gloves (and a mask) are to be used followed by hand hygiene. Gloves should never be reused. Hand hygiene should never be pre-formed with gloves on.

Key points on eye shield/protection

At the time of providing care to the patient, protective measures require to be taken when there is a chance of direct splashing secretion from patient's respiratory droplets, excretion, blood or body fluids directly to the eye or face of the provider/caregiver.

Spectacles are not regarded to be protective in these cases. Surgical mask with integrated visor, full face shield/visor or polycarbonate safety spectacles or equivalent can serve this purpose. These require being disposable and single-used.

Other PPE usages

- When performing aerosol-generating procedures (tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, nebulization and bronchoscopy etc), providers should use a particulate respirator⁷ which is protective (comparable to US National Institute for Occupational Safety and Health-certified N95, European Union standard FFP2, or equivalent) .
- Additionally, eye protection, gloves and gowns AND/OR aprons (when gowns are not fluid resistant) are to be used.

PPE use by Health workers

- Health workers are to be provided personal protective equipment (PPE). After patient care, they should follow appropriate doffing and disposal of all PPE and hand hygiene^{8,9}.
- For each patient, a new set of PPE needs to be used.

⁷ World Health Organization. Advice on the use of masks in the community, during home care and in healthcare settings in the context of the novel coronavirus (COVID-19) outbreak. 19 March 2020 [Erişim Tarihi: 20 Mart 2020]. Erişim: [https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak).

⁸ WHO guidelines on hand hygiene in health care: first global patient safety challenge – clean care is safer care. Geneva: World Health Organization; 2009 (<https://apps.who.int/iris/handle/10665/44102>, accessed 17 January 2020).

⁹World Health Organization. How to put on and take off personal protective equipment (PPE). World Health Organization; 2008.

- Health workers should refrain from touching own eyes, nose, or mouth with potentially contaminated gloved or bare hands.
- Separate doffing and donning area should be delegated in a health facility, with appropriate waste management and hand hygiene stations available.
- A designated change room/space will be provided as their changing rooms with separate privacy areas for female staffs.
- Staff should shower and change their clothes immediately following doffing of PPE.

Annex 1 summarize the WHO PPE recommendation for isolation center in Timor-Leste.

Injection safety practices

Normally, injection is not a common requisite for mild symptomatic patients. However, where required, routine injection safety practices requires to be followed.

1. General safety measures

The general safety measures for injection practices are: Hand hygiene, gloves where appropriate, other single-use personal protective equipment, skin preparation and disinfection¹⁰.

Hand hygiene:

Perform hand hygiene at all times before and after injection sessions, while in direct contact with the patient or putting on or removing the gloves. For hand hygiene, use either soap or running

¹⁰ World Health Organization, 2010. *WHO best practices for injections and related procedures toolkit* (No. WHO/EHT/10.02). Geneva: World Health Organization.

water (if hands are visibly soiled) or alcohol rub (if hands appear clean before preparing injection material).

Gloves where appropriate:

Non-sterile, well-fitting latex or latex-free gloves are recommended during injection sessions when there is a chance of coming in contact with blood or blood products (Table 2).¹¹

Indication	Precautions
Wear non-sterile, well-fitting, single use gloves:	When undertaking injections DO NOT use gloves
<ul style="list-style-type: none"> • When there is a likelihood of coming into direct contact with a patient’s blood or other potentially infectious materials (e.g. body fluid, moist body substances and saliva {in dental procedures}), mucous membranes and nonintact skin • When performing venepuncture or venous access injections, because of the potential for blood exposure at the puncture site • If the health worker’s skin is NOT intact (e.g. through eczema, or cracked or dry skin) • If the patient’s skin is NOT intact (e. g. Through eczema, burns or skin infections), 	<ul style="list-style-type: none"> • For routine intradermal, subcutaneous and intramuscular injections • If the health worker’s skin is intact • If the patient’s skin is intact. <p>Gloves DO NOT provide protection against needle-stick or other puncture wounds caused by sharp objects. Needles, scalpels and other sharps should be handled with extreme caution.</p>

Table 2: Indication for glove use in injection practice

Other single-use personal protective equipment:

Masks, eye protection and other protective clothing ARE NOT indicated for the injection procedures unless exposure to blood splashes is expected. When using single-use personal protective equipment, immediately after use the equipment should be disposed of.

¹¹ The Global Patient Safety Challenge – Clean care is safer care. Information sheet 6: Glove use. Geneva, World Health Organization, 2006. <http://www.who.int/gpsc/tools/Infsheet6.pdf>

Skin preparation and disinfection

The skin area requires being injected need to be cleaned first from any visible dirt. Prior to injecting, allow the alcohol to be completely dried on the skin. The skin needs to be prepared based on the site of injection.

Some other aspects of injection safety are described in annex 11.

Safe Waste management

The waste produced in the isolation center is to be regarded as infectious as the patients are dwelling there. Therefore, special measures are to be in place for collection and disposal of those wastes which are essentially contaminated with patient's secretion. If wastes are not discarded inappropriately, there is a great chance of transmission of infection.

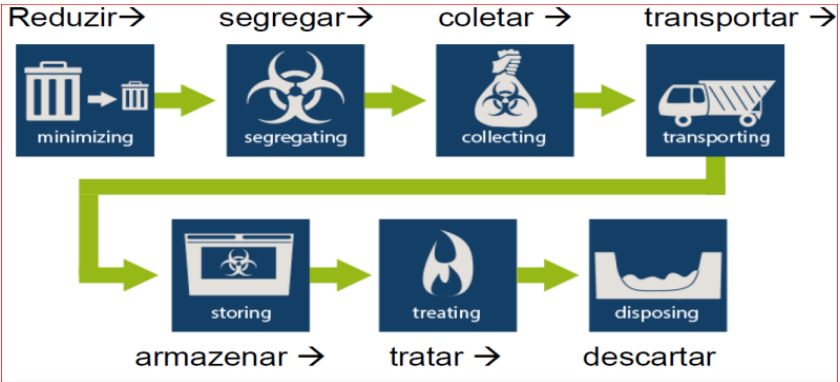


Figure 3: Steps of waste management

Types of wastes¹²:

Infectious waste: waste contaminated with blood and other bodily fluids (e.g. from discarded diagnostic samples), cultures and stocks of infectious agents from laboratory work (e.g. waste from autopsies and infected animals from laboratories), or waste from patients with infections (e.g. swabs, bandages and disposable medical devices);

Pathological waste: human tissues, organs or fluids, body parts and contaminated animal carcasses;

Non-hazardous or general waste: waste that does not pose any particular biological, chemical, radioactive or physical hazard

Preparatory measures for waste management

Arrange three-bin system (with separate containers) to organize general waste, infectious waste, and pathological waste

- Arrange two bins system general waste and infectious waste in cases where three bins system not available
- Waste containers should be clearly labeled and lidded for controlling waste production
- Infectious & general wastes should not be mixed during collection, transport or storage
- Collected waste may be taken to central storage onsite before treatment and disposal provided it is stored securely and remains appropriately labeled and segregated
- Use appropriate PPE (boots, long-sleeved gown, heavy-duty gloves, mask, and goggles or a face shield) while managing infectious waste and perform hand hygiene after taking off the PPE;

¹² <https://www.who.int/news-room/fact-sheets/detail/health-care-waste>

- Sharps should have a separate container and should not be mixed with the infectious waste
- Waste bags should not be carried up against the body or over the shoulder
- All waste from the isolation area is considered as infectious and should be disposed of following routine methods for infectious waste
- Isolation center staff should be trained in waste management
- Waste should always be separated at the point of care

Linen management

Linens used by the patients are to be regarded as infectious. Careful handling of the linen at the time of processing is important so as to not being exposed especially in case of soiled clothes

Precautionary measures:

- Arrange a designated place for keeping the linen bags before washing
- Used linen is not to be placed on a surface or floor from where the infection can spread.
- Soiled laundry of the confirmed patients not to be shaken

Steps of linen management

- Contaminated linen is to be put into a clearly labeled, leak-proof bags or containers, and require to be handled inside the patient room before processing
- At the time linen handling, appropriate PPE (heavy duty gloves, a mask, eye protection including goggles or a face shield, a long-sleeved gown, an apron if the gown is not fluid resistant, and boots or closed shoes) should be worn
- Hand hygiene to be practiced before and after handling the laundry

- The regular linen is to be washed using regular soap and warm water and laundry detergent. In case of machine washing a 60–90 °C (140–194 °F) is recommended.
- Where washing machine is no available, a large drum can be used for soaking clothes with use of a stick to stir the clothes within the drum. The linens are then soaked in 0.05% chlorine for additional 30 minutes followed by rinsing with water.
- All linens require to be dried thoroughly in sunlight.
- Health worker uniforms: Ideally, the HW should wear regular clothes before his shift. He should use scrubs to perform his clinical activities and at the end of the shift, the scrubs are to put to launder before next using.

Environmental cleaning, disinfection and sterilization

Consistent and correct process of cleaning and disinfection procedures is to be followed in an isolation center. Special attention is required for high-touch surfaces, and visibly soiled areas. The isolation center cleaning frequency will be largely being depended patient loads and used surfaces.

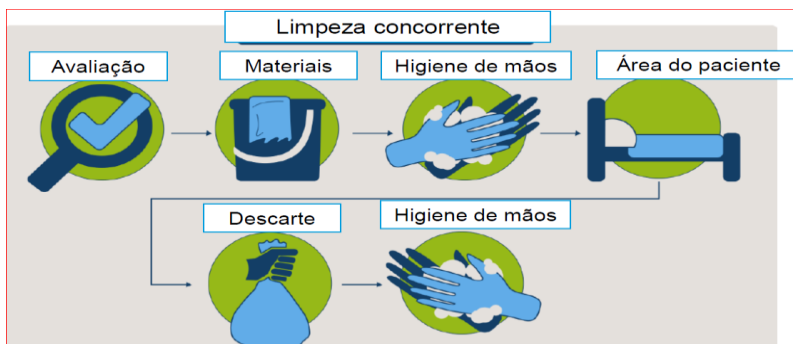


Figure 4: Cleaning process

Cleaning materials

Bleach (Sodium hypochlorite) and alcohol has proven efficacy on cleaning environmental surfaces and patient care equipment and therefore can be used for the isolation center. A diluted bleach solution of 0.5% is 1-part bleach to 9 parts water. For surfaces that cannot be cleaned with bleach, 70% ethanol or an appropriate local product can be used.

Many disinfectants are active against enveloped viruses, such as the COVID-19 virus, including commonly used hospital disinfectants. Currently, WHO recommends using:

- 70% ethyl alcohol to disinfect small areas between uses, such as reusable dedicated equipment (for example, thermometers);
- Sodium hypochlorite at 0.5% (equivalent to 5000 ppm) for disinfecting surfaces.

Frequently touched surfaces throughout the patient's care area should be cleaned regularly, such as beside tables, bed frames and other bedroom furniture. Bathrooms should be cleaned and disinfected at least once a day. Regular household soap or detergent should be used for cleaning first and then, after rinsing, regular household disinfectant containing 0.5% sodium hypochlorite (that is, equivalent to 5000 ppm or 1-part household bleach with 5% sodium hypochlorite to 9 parts water) should be applied. PPE should be worn while cleaning, including mask, goggles, a fluid-resistant apron, and gloves, and hand hygiene with an alcohol-based hand rub or soap and water should be performed after removing PPE.

Using Liquid Bleach Chlorine in liquid bleach comes in different concentrations. Any concentration can be used to make a dilute chlorine solution by applying the following formula:

$[\% \text{ chlorine in liquid bleach} / \% \text{ chlorine desired}] - 1 = \text{Total parts of water for each part bleach}$

† Example: To make a 0.5% chlorine solution from 5.0%†† bleach:
 $[5.0\% / 0.5\%] - 1 = 10 - 1 = 9$ parts water for each part bleach.
Therefore, you must add 1 part 5.0% bleach to 9 parts waters to make a 0.5% chlorine solution.

General principles for cleaning

Precautionary measures:

- Cleaners/housekeeping should ensure they are wearing the appropriate PPE when cleaning an isolation room or area
 - Do not spray disinfectants, this may cause some virus to be re-aerosolized
 - If re-using medical equipment between patients, ensure that they are disinfected between patients
 - Utility gloves needs cleaning with soap and water and subsequently decontaminated with 0.1% sodium hypochlorite solution. A one-time glove (e.g. nitrile or latex) needs to be discarded after each use.
 - Each time, the gloves are out on or discarded, hand hygiene to be performed.
-
- Clean from top to bottom, outer to inner, and isolation spaces with COVID-19 patients should be clean last
 - When cleaning in any facility, always to move from cleanest to dirtiest
 - Damp dusting and mopping is recommended (Put a damp/moist towel on the end of the broom or mop)
 - Isolation spaces where COVID-19 suspects or confirmed cases are being cared for need to have dedicated cleaning/disinfection supplies.

- Increase the frequency of cleaning throughout the healthcare facility (see the cleaning protocol at annex 2)
- Develop a cleaning schedule for isolation areas having COVID-19 patients. More cleaners may need to be hired to meet the cleaning demand
- All organic material should be removed from the room upon patient discharge
- All equipment and medical equipment must be cleaned hospital level disinfectants
- Room furniture or surfaces, toilets that are regularly touched by the patient (doorknobs, bedrails, tabletops, light switches, patient handsets) requires being cleaned and disinfected. Initially, regular household soap or detergent should be used and then, after rinsing, regular household disinfectant containing 0.1% sodium hypochlorite (i.e. equivalent to 1000 ppm) should be applied.
- All cleaners must be trained in appropriate cleaning and disinfecting techniques and in the use of PPE.



Figure 5: Terminal cleaning process

Spraying of disinfectants is NEVER recommended on people under any circumstance. Further, it is not recommended method of cleaning or disinfection. It can cause harm such as skin irritation or breath difficulty. Further, spraying or fumigation of outdoor spaces, such as surfaces or streets, is also not recommended to kill the COVID-19 virus or other pathogens because disinfectant is inactivated by dirt and debris.

III. Implementing empiric additional precautions

The additional precautions are implemented in case of confirmed or suspected COVID-19 cases. All individuals, including family members, visitors and healthcare providers will practice for contact and droplet precautions while exposed to a COVID-19 suspected or confirmed cases.

Covid-19 infection can spread between individuals through the respiratory droplets and contact routes^{13,14}. Transmission of the COVID-19 virus may occur by direct contact with infected people and indirect contact with surfaces in the immediate environment or with objects used on the infected person (e.g. stethoscope or thermometer). Droplet transmission occurs when a person is in close contact (within 1 m) of someone with respiratory symptoms.

Airborne transmission of the COVID-19 virus is possible under circumstances and settings where aerosol generating procedures (AGPs) are performed¹⁵. Airborne transmission is different from

¹³ Liu J, Liao X, Qian S et al. Community transmission of severe acute respiratory syndrome coronavirus 2, Shenzhen, China, 2020. *Emerg Infect Dis* 2020 doi.org/10.3201/eid2606.200239

¹⁴ Chan J, Yuan S, Kok K et al. A familial cluster of pneumonia associated with the 2019 novel coronavirus indicating person-to-person transmission: a study of a family cluster. *Lancet* 2020 doi: 10.1016/S0140- 6736(20)30154-9

¹⁵ Infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care: WHO guidelines. Geneva: World Health Organization; 2014 (available at <http://apps.who.int/iris/10665/112656/>, accessed 15 June 2020).

droplet transmission as it refers to the presence of microbes within droplet nuclei.

Contact and droplet precautionary measures for COVID-19 infection

Precautions on visiting

- Visiting is to be strictly restricted
- Displayed information on visitation schedule and rules
- Visitors require to use appropriate PPE and practice hand hygiene
- The hand hygiene facility is to be ensured for the visitors
- Visitor's visiting record need to be maintained

- Patients should be placed in adequately ventilated single rooms (where possible).
- When enough isolation rooms are not available, patients may be grouped together
- In case of scarcity of isolation rooms, cohort may be considered. There should be a minimal distance between beds. Beds should as well be separated by curtains. (During cohort formation, consideration will be given to gender and privacy of the patient and female cases will be prioritized to be kept in isolation room. Similarly, high-risk groups, immune-compromised patients, children (by age and immunization status) will be considered.
- Priority is to be given to symptomatic patients for allocating the single room
- Keep reserved rooms for aerosol generating procedure (AGP), when applicable and available
- Only designated and limited health workers are to be appointed for managing the confirmed patient to reduce the chance of infection transmission.
- The staffs that provides care to the confirmed patient should possess clinical and the IPC related skills.

- Patient's 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%).
- The entrance area of the isolation center through which patient enters the isolation area is a critical area where careful practice of using masks, constant performing of respiratory and hand hygiene, distancing of the patients for at least 1 meter is a prerequisite.

Precautionary measures for prevention from airborne transmission of COVID-19 infection

There is an increased risk of corona virus infection transmission at the time of aerosol-generating procedures, such as tracheal intubation, non-invasive ventilation, tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, and bronchoscopy^{16,17}

- An adequately ventilated room require to be used for the [procedure where there adequate ventilation (natural ventilation with air flow of at least 160 L/s per patient or in negative- pressure rooms with at least 12 air changes per hour and controlled direction of air flow when using mechanical ventilation)
- Health providers using a particulate respirator¹⁸ (seal checked)¹⁹ which should be protective (comparable to US National Institute

¹⁶ Tran K, Cimon K, Severn M, Pessoa-Silva CL, Conly J. Aerosol generating procedures and risk of transmission of acute respiratory infections to healthcare workers: a systematic review. PLoS One. 2012;7:e35797. doi: 10.1371/journal.pone.0035797. Epub 2012 Apr 26.

¹⁷ World Health Organization. How to perform a particulate respirator seal check. Geneva: World Health Organization; 2008.

¹⁸ World Health Organization. Advice on the use of masks in the community, during home care and in healthcare settings in the context of the novel coronavirus

for Occupational Safety and Health-certified N95, European Union standard FFP2, or equivalent)

- Additionally, use eye protection (i.e. goggles or a face shield), a clean, non-sterile, long-sleeved gown and gloves.
- When gowns are not fluid resistant, a waterproof apron is to be used to prevent penetration by high volume of fluid in the gowns
- Facial hair (e.g. a beard) may prevent a proper respirator fit. Those with facial hair should consider trimming or shaving to ensure proper fit.
- Highly restrict the number of persons present in the room to the absolute minimum

IV. Implementation of administrative control

Administrative control is related to the followings:

Human resource need: It is important to address human resource needs in the isolation center for managing the IPC implementation and ensure the adequate ratio of staff-patient

Orientation of staffs: Orient staffs on required preparation in line with the covid-19 IPC plan for the isolation center. The Front line worker should be provided with clinical skill and IPC relevant skills for dealing with the confirmed cases. The staffs requires to be well oriented on hand hygiene, use of (PPE), physical distancing, monitoring own symptoms, cleaning and disinfecting practices, storage of and maintenance of supplies and so forth.

(COVID-19) outbreak. 19 March 2020 [Erişim Tarihi: 20 March 2020]. Erişim: [https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-\(2019-ncov\)-outbreak](https://www.who.int/publications-detail/advice-on-the-use-of-masks-in-the-community-during-home-care-and-in-healthcare-settings-in-the-context-of-the-novel-coronavirus-(2019-ncov)-outbreak).

¹⁹ World Health Organization. How to perform a particulate respirator seal check. Geneva: World Health Organization; 2008.

Appoint IPC focal person/team: An IPC focal/team requires to be appointed for the isolation center for dedicated work on technical and logistic aspects of IPC practices

Organize roster for working: The isolation center requires having roster in place with appropriate distribution of staffs in relevant areas. Skilled staffs are to be allocated to handle the critical areas. A back up plan should be in place for sudden shortage of the staffs in the isolation center

Available resource and logistics: It is crucial to ensure a continuous supply of resource and logistics for ensuring the ongoing IPC activities. Existing stock is to be identified as a baseline and a plan to adjust in case of acute shortage is to be in place. This includes alcohol-based hand sanitizer, soap and paper towels, tissues, waste bins, disinfectants, mops, buckets and other cleaning supplies (e.g., detergent, cloths, spray bottles, gloves)

Monitor IPC implementation: A team or focal should monitor the compliance of health workers or the patients following the precautions and practices.

V. Use of environment and engineering control

The COVID-19 virus spreads in close encounter between infected cases and especially when the physical environmental aspect is not controlled well. Therefore, the isolation center requires to be adjusted for few modifications as much possible to adjust existing space or to create new spaces for allowing social distance of at least 1 m (where possible, it is ideal to maintain 2 metre)²⁰. The designated area where the patient stays requires to be well ventilated and must have water and sanitation facilities.

²⁰ <https://www.who.int/publications/i/item/10665-331603>

- Assure the responsible staff adhere the procedures, also the cleaning and disinfectant including good management of eating utensils cleaning, for dirty clothes and good waste management.
- Ensure the built infrastructure is sound and in place
- Practice consistent, correct process of cleaning and disinfection process of the rooms, surfaces, to prevent environmental contamination
- Conduct safe practice and management of laundry, food service utensils, used medical equipment for patients
- Ensure functional hand hygiene facilities for health care staffs at all points of care and in areas where PPE is put on or taken off. In addition, functional hand hygiene facilities should be available for all patients, family members, and visitors, and should be available within 5 m of toilets, as well as in waiting and dining rooms and other public areas.
- Follow important recommendation on WASH management activities in healthcare settings:
- This includes safe managing of excreta (faeces and urine) disposal, consistent hand hygiene practice, cleaning and disinfection practices at regular interval, safe management of health care waste. See Annex 12 for additional WASH infrastructure minimum standards.

Annex

Annex 1: PPE recommendation: Timor-Leste (Isolation center)²¹

Scenario	Medical Mask	Fabric Mask	Respirator or N95 mask	Gown	Medical gloves	Eye protection (goggles or face shield)	Boots/closed shoes	Apron	Heavy duty gloves
Health worker¹ <ul style="list-style-type: none"> Direct care/physical exam (suspicious or confirmed) 									
Health worker² <ul style="list-style-type: none"> Direct care/physical exam with aerosol generating procedures (AGP) (suspicious or confirmed) 								when gown is not fluid resistant	

²¹ Source: Ministry of Health, Timor-Leste

<p>Health workers³</p> <ul style="list-style-type: none"> No physical exams (suspicious or confirmed) 									
<p>Cleaners & waste management workers⁴</p> <ul style="list-style-type: none"> When cleaning/entering the room of confirmed or suspicious COVID-19 patients 			<p>If AGPs are performed nearby</p>						
<p>Laboratory: includes technicians who are</p> <ul style="list-style-type: none"> Manipulating respiratory samples Specimen handling for molecular testing Handling suspected 			<p>For AGPs</p>						

or confirms samples who are testing blood for additional tests such as blood gas, hematology, etc.									
Reception areas⁵									
<ul style="list-style-type: none"> Administrative work that does not involve contact with confirmed or suspicious patients 									
Patients									
Suspect or confirmed case, with or without current symptoms									
Visitor									

1. Wearing PPE is not a replacement for diligent hand washing on a frequent basis, respiratory etiquette, and maintaining 1-meter distance when possible. PPE must be worn in addition to performing these 3 critical activities.
2. e.g. Doctor examining a patient with suspected COVID-19, nurse taking the vital signs of a patient with confirmed COVID-19

3. Aerosol generating procedures (AGP) include tracheal intubation, non-invasive ventilation (e.g., BiPAP, CPAP), tracheotomy, cardiopulmonary resuscitation, manual ventilation before intubation, bronchoscopy, sputum induction induced by using nebulized hypertonic saline, and autopsy procedures.
4. e.g. HCW delivering a meal to a patient without respiratory symptoms, HCW pushing a COVID-19 patient (without symptoms) in a wheelchair; radiographer taking an x-ray of a patient's leg who has no respiratory symptoms, midwife doing an antenatal checkup on a pregnant woman with no respiratory symptoms
5. Current WHO recommendations during community transmission is for “continuous mask wearing”. At current, there are only local transmission/sporadic cases in TLS. As such, WHO does not recommend PPE.

Annex 2: Proposed frequency of cleaning of environmental surfaces in Community Isolation Centers²²

Patient area	Frequency ^a	Additional guidance
Screening/triage area	At least twice daily	1. Focus on high-touch surfaces, then floors (last)
Inpatient rooms/cohort-occupied	At least twice daily, preferably three times daily, in particular for high-touch surfaces	1. Focus on high-touch surfaces, starting with shared/common surfaces, then move to each patient bed; use new cloth for each bed if possible; then floors (last)
Inpatient rooms-unoccupied (terminal cleaning)	Upon discharge/transfer	1. Low-touch surfaces, high-touch surfaces, floors (in that order); waste and linens removed, bed thoroughly cleaned and disinfected
Outpatient/ambulatory care rooms	After each patient visit (in particular for high-touch surfaces) and at least once daily terminal clean	1. High-touch surfaces to be disinfected after each patient visit 2. Once daily low-touch surfaces, high-touch surfaces, floors (in that order); waste and linens removed, examination bed thoroughly cleaned and disinfected
Hallways/corridors	At least twice daily ^b	High-touch surfaces including railings and equipment in hallways, then floors (last)
Patient bathrooms/toilets	Private patient room toilet: at least twice daily Shared toilets: at least three times daily	1. High-touch surfaces, including door handles, light switches, counters, faucets, then sink bowls, then toilets and finally floor (in that order) 2. Avoid sharing toilets between staff and patients

²² <https://www.cdc.gov/coronavirus/2019-ncov/global-covid-19/operational-considerations-isolation-centers.html>

Annex 3: IPC in isolation rooms or areas²³

3.1 PREPARATION OF THE ISOLATION ROOM OR AREA

- Ensure that appropriate handwashing facilities and hand-hygiene supplies are available.
- Stock the sink area with suitable supplies for handwashing, and with alcohol-based hand rub, near the point of care and the room door.
- Ensure adequate room ventilation.
- Post signs on the door indicating that the space is an isolation area.
- Ensure that visitors consult the health-care worker in charge (who is also responsible for keeping a visitor record) before being allowed into the isolation areas. Keep a roster of all staff working in the isolation areas, for possible outbreak investigation and contact tracing.
- Remove all non-essential furniture and ensure that the remaining furniture is easy to clean, and does not conceal or retain dirt or moisture within or around it.
- Stock the PPE supply and linen outside the isolation room or area (e.g., in the change room). Set up a trolley outside the door to hold PPE. A checklist may be useful to ensure that all equipment is available
- Place appropriate waste bags in a bin. If possible, use a touch-free bin. Ensure that used (i.e., dirty) bins remain inside the isolation rooms.
- Place a puncture-proof container for sharps disposal inside the isolation room or area.
- Keep the patient's personal belongings to a minimum. Keep

²³ Infection prevention and control of epidemic-and pandemic-prone acute respiratory infections in health care. Geneva: World Health Organization; 2014 (accessed 27 February 2020).
https://apps.who.int/iris/bitstream/handle/10665/112656/9789241507134_eng.pdf?sequence=1

water pitchers and cups, tissue wipes, and all items necessary for attending to personal hygiene, within the patient's reach.

- Dedicate non-critical patient-care equipment (e.g. stethoscope, thermometer, blood pressure cuff and sphygmomanometer) to the patient, if possible. Thoroughly clean and disinfect patient-care equipment that is required for use by other patients before use.
- Place an appropriate container with a lid outside the door for equipment that requires disinfection or sterilization.
- Keep adequate equipment required for cleaning or disinfection inside the isolation room or area, and ensure scrupulous daily cleaning of the isolation room or area.
- Set up a telephone or other method of communication in the isolation room or area to enable patients, family members or visitors to communicate with health-care workers. This may reduce the number of times the workers need to don PPE to enter the room or area.

3.2 WEARING AND REMOVING PERSONAL PROTECTIVE EQUIPMENT

- Before entering the isolation room or area, collect all equipment needed; perform hand hygiene with an alcohol-based hand rub (preferably when hands are not visibly soiled) or soap and water
- put on PPE in the order that ensures adequate placement of PPE items and prevents self-contamination and self-inoculation while using and taking off PPE; an example of the order in which to don PPE when all PPE items are needed is hand hygiene, gown, mask or respirator, eye protection and gloves, as illustrated in Fig. below.

3.3 LEAVING THE ISOLATION ROOM OR AREA

- Either remove PPE in the anteroom or, if there is no anteroom, make sure that the PPE will not contaminate either the environment outside the isolation room or area, or other people.
- Remove PPE in a manner that prevents self-contamination or

self-inoculation with contaminated PPE or hands. General principles are:

- Remove the most contaminated PPE items first;
- Perform hand hygiene immediately after removing gloves;
- Remove the mask or particulate respirator last (by grasping the ties and discarding in a rubbish bin);
- Discard disposable items in a closed rubbish bin,
- Put reusable items in a dry (e.g. without any disinfectant solution) closed container; an example of the order in which to take off PPE when all PPE items are needed is gloves (if the gown is disposable, gloves can be peeled off together with gown upon removal), hand hygiene, gown, eye protection, mask or respirator, and hand hygiene (Fig. 3 below).

Perform hand hygiene with an alcohol-based hand rub (preferably) or soap and water whenever ungloved hands touch contaminated PPE items

3.4 CHECKLIST FOR ISOLATION ROOM OR AREA



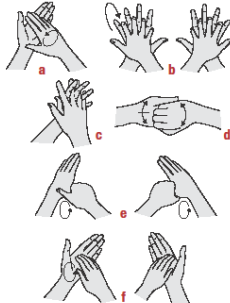
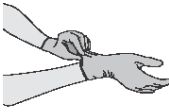


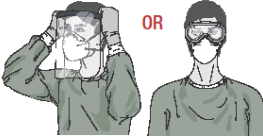


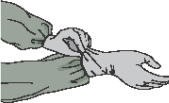

The following items should be kept in isolation rooms at all times so that PPE is always available for health-care workers.

Equipment	Stock present
Eye protection (visor or goggles)	
Face shield (provides eye, nose and mouth protection)	
Gloves <ul style="list-style-type: none"> • reusable vinyl or rubber gloves for environmental cleaning • latex single-use gloves for clinical care 	
Hair covers (optional)	
Particulate respirators (N95, FFP2, or equivalent)	
Medical masks	

Gowns and aprons <ul style="list-style-type: none"> • single-use long-sleeved fluid-resistant or reusable non-fluid-resistant gowns • plastic aprons (for use over non-fluid-resistant gowns if splashing is anticipated and if fluid-resistant gowns are not available) 	
Alcohol-based hand rub	
Plain soap (liquid if possible, for washing hands in clean water)	
Clean single-use towels (e.g. paper towels)	
Sharps containers	
Appropriate detergent for environmental cleaning and disinfectant for disinfection of surfaces, instruments or equipment	
Large plastic bags	
Appropriate clinical waste bags	
Linen bags	
Collection container for used equipment	

Annex 4: Steps to put on personal protective equipment (PPE) including gown²⁴

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

<p>1 Remove all personal items (jewelry, watches, cell phones, pens, etc.)</p> 	<p>2 Put on scrub suit and rubber boots¹ in the changing room.</p> 	<p>3 Move to the clean area at the entrance of the isolation unit.</p> <p>4 By visual inspection, ensure that all sizes of the PPE set are correct and the quality is appropriate.</p> <p>5 Undertake the procedure of putting on PPE under the guidance and supervision of a trained observer (colleague).</p>	<p>6 Perform hand hygiene.</p> 
<p>7 Put on gloves (examination, nitrile gloves).</p> 	<p>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.</p> 	<p>9 Put on face mask.</p> 	
<p>10 Put on face shield OR goggles.</p> 	<p>11 Put on head and neck covering surgical bonnet covering neck and sides of the head (preferable with face shield) OR hood.</p> 	<p>12 Put on disposable waterproof apron (If not available, use heavy duty, reusable waterproof apron).</p> 	
<p>13 Put on second pair of (preferably long cuff) gloves over the cuff.</p> 	<p>¹ 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 (non-slip and preferably impermeable)</p> 		

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²⁴https://apps.who.int/iris/bitstream/handle/10665/150115/WHO_HIS_SDS_2015.1_eng.pdf?sequence=1

Annex 5: Steps to put on personal protective equipment (PPE) including coverall²⁵

Steps to put on personal protective equipment (PPE) including coverall

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



2 Put on scrub suit and rubber boots¹ in the changing room.

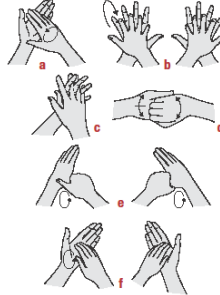


3 Move to the clean area at the entrance of the isolation unit.

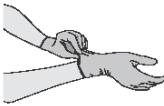
4 By visual inspection, ensure that all sizes of the PPE set are correct and the quality is appropriate.

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 coverall.²



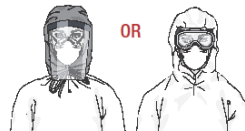
9 Put on face mask.



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)² gloves over the cuff.



¹ 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 (bootie) and preferably impermeable.
² Do not use adhesive tape to attach the gloves. If the gloves or the coverall sleeves are not long enough, make a thumb (or middle finger) hole in the coverall sleeve to ensure that your forearm is not exposed when making wide movements. Some coverall models have finger loops attached to sleeves.



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²⁵https://apps.who.int/iris/bitstream/handle/10665/150116/WHO_HIS_SDS_2015.2_eng.pdf?sequence=1

Annex 6: Steps to take off personal protective equipment (PPE) including gown²⁶

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.¹

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.



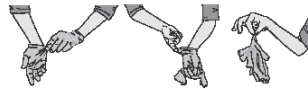
14 Perform **hand hygiene** on gloved hands.

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

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.²

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

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



18 Perform **hand hygiene**.

¹ While working in the patient care area, outer gloves should be changed between patients and prior to exiting (change after seeing the last patient)

² 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.



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²⁶https://apps.who.int/iris/bitstream/handle/10665/150117/WHO_HIS_SDS_2015.3_eng.pdf?sequence=1

Annex 7: Steps to take off personal protective equipment (PPE) including coverall²⁷

Steps to take off personal protective equipment (PPE) including coverall

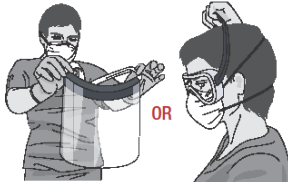
1 Always remove PPE under the guidance and supervision of a trained observer (colleague). Ensure that infectious waste containers are available in the doffing area for safe disposal of PPE. Separate containers should be available for reusable items.

2 Perform hand hygiene on gloved hands.¹

7 Remove coverall and outer pair of gloves: Ideally, in front of a mirror, tilt head back to reach zipper, unzip completely without touching any skin or scrubs, and start removing coverall from top to bottom. After freeing shoulders, remove the outer gloves² while pulling the arms out of the sleeves. With inner gloves roll the coverall, from the waist down and from the inside of the coverall, down to the top of the boots. Use one boot to pull off coverall from other boot and vice versa, then step away from the coverall and dispose of it safely.

8 Perform hand hygiene on gloved hands.

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



10 Perform hand hygiene on gloved hands.

13 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.³

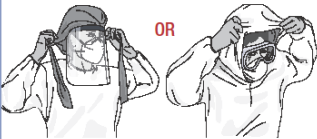
14 Perform hand hygiene on gloved hands.

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 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.



6 Perform hand hygiene on gloved hands.



11 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.



12 Perform hand hygiene on gloved hands.

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



16 Perform hand hygiene.

¹ While working in the patient care area, outer gloves should be changed between patients and prior to eating (change after seeing the last patient)
² This technique requires properly fitted gloves. When outer gloves are too tight or inner gloves are too loose and/or hands are sweaty, the outer gloves may need to be removed separately, after removing the apron.
³ 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.




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²⁷https://apps.who.int/iris/bitstream/handle/10665/150118/WHO_HIS_SDS_2015.4_eng.pdf?sequence=1

Annex 8: How to handrub?²⁸

How to handrub?

RUB HANDS FOR HAND HYGIENE! WASH HANDS WHEN VISIBLY SOILED

 Duration of the entire procedure: 20-30 seconds

 <p>1a</p>	 <p>1b</p>	 <p>2</p>
<p>Apply a palmful of the product in a cupped hand, covering all surfaces;</p>		<p>Rub hands palm to palm;</p>
 <p>3</p>	 <p>4</p>	 <p>5</p>
<p>Right palm over left dorsum with interlaced fingers and vice versa;</p>	<p>Palm to palm with fingers interlaced;</p>	<p>Backs of fingers to opposing palms with fingers interlocked;</p>
 <p>6</p>	 <p>7</p>	 <p>8</p>
<p>Rotational rubbing of left thumb clasped in right palm and vice versa;</p>	<p>Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;</p>	<p>Once dry, your hands are safe.</p>


²⁸ World Health Organization & WHO Patient Safety. (2009). WHO guidelines on hand hygiene in health care. World Health Organization.

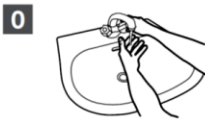
<https://apps.who.int/iris/handle/10665/44102>

Annex 9: How to handwash?²⁹

How to handwash?

WASH HANDS WHEN VISIBLY SOILED! OTHERWISE, USE HANDRUB

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



0 Wet hands with water;



1 Apply enough soap to cover all hand surfaces;



2 Rub hands palm to palm;



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



4 Palm to palm with fingers interlaced;



5 Backs of fingers to opposing palms with fingers interlocked;



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



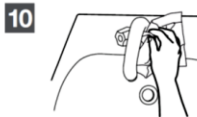
7 Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa;



8 Rinse hands with water;



9 Dry hands thoroughly with a single use towel;



10 Use towel to turn off faucet;



11 Your hands are now safe.

²⁹ World Health Organization & WHO Patient Safety. (2009). WHO guidelines on hand hygiene in health care. World Health Organization. <https://apps.who.int/iris/handle/10665/44102>

Annex 10: Minimum Infection Prevention and Control Measures During Isolation - for Households and Facilities³⁰

The following infection prevention and control measures should be used to ensure a safe environment while in isolation. All people in the household or the facility, should:

- Perform hand hygiene frequently, particularly after touching a patient or their immediate environment, coughing, sneezing or blowing their nose, after going to the toilet, and before eating or drinking. Hand hygiene includes cleaning hands either with soap and water OR with an alcohol-based hand rub.
- Practice respiratory hygiene (covering their nose and mouth with a bent elbow or paper tissue when coughing or sneezing and then immediately disposing of the tissue).
- Not touch their eyes, nose and mouth.
- Not to share personal items (e.g. toothbrushes, cigarettes, eating utensils, dishes, drinks, towels, washcloths, or bed linen).
- Clean all items such as cutlery or bedding before they are reused (see below for cleaning)
- Avoid direct contact with body fluids. Use disposable gloves and a mask when providing oral or respiratory care and when handling stool, urine, and other waste. Perform hand hygiene after removing gloves and the mask.
- Use masks appropriately
- The patient should wear a mask as much as possible. It is most important to wear a mask when in the same room as another person.

³⁰ Facility and Home-based isolation of patients with COVID-19 or suspected COVID-19 presenting with mild symptoms Standard Operating Procedures 06 April 2020, TL

- When not wearing a mask, rigorous respiratory hygiene should be used; the mouth and nose should be covered with a disposable paper tissue when coughing or sneezing. Materials used to cover the mouth and nose should be discarded or cleaned appropriately after use (e.g. wash handkerchiefs using regular soap or detergent and water).
- Caregivers should wear a mask that covers their mouth and nose when in the same room as the patient.
- Masks should not be touched or handled during use. If the mask gets wet or dirty, it must be replaced immediately with a new clean, dry mask.
- Masks should be removed using the appropriate technique – that is, do not touch the front, but instead untie it. Discard the mask immediately after use and perform hand hygiene.
- Not reuse masks or gloves. When HCWs provide home care, they should perform a risk assessment to select the appropriate personal protective equipment and follow the recommendations for droplet and contact precautions.

Annex 11: Injection safety areas³¹

1. Injection devices and medications

Injection devices:

Health-care settings should ensure that an adequate supply of single-use devices is available, to allow providers to use a new device for each procedure. The packaging of the device requires to be checked well including expiry dates.

Medications:

When giving medication:

- Ensure one needle, one syringe, one patient!
- Single-dose vials
 - Whenever possible, use a single-dose vial for each patient, to reduce cross-contamination between patients.
- Multidose vials
 - Only use multidose vials if there is no alternative
 - Open only one vial of a particular medication at a time in each patient-care area
 - Discard a multidose vial: – if sterility or content is compromised

2. Preparing injections

Injections should be prepared in a designated clean area where contamination by blood and body fluids is unlikely (1, 7).

Three steps must be followed when preparing injections.

- Keep the injection preparation area free of clutter so all surfaces can be easily cleaned.

³¹ World Health Organization. (2010). *WHO best practices for injections and related procedures toolkit* (No. WHO/EHT/10.02). World Health Organization.

- Before starting the injection session, and whenever there is contamination with blood or body fluids, clean the preparation surfaces with 70% alcohol (isopropyl alcohol or ethanol) and allow to dry.
- Assemble all equipment needed for the injection:
 - Sterile single-use needles and syringes
 - Reconstitution solution such as sterile water or specific diluent
 - Alcohol swab or cotton wool
 - Sharps container

3. Administering injections

An aseptic technique should be followed for all injections.

General measures when administering an injection:

- Check the drug chart or prescription for the medication and the corresponding patient's name and dosage
- Perform hand hygiene
- Wipe the top of the vial with 60–70% alcohol (isopropyl alcohol or ethanol) using a swab or cotton-wool ball
- Open the package in front of the patient to reassure them that the syringe and needle have not been used previously;
- Using a sterile syringe and needle, withdraw the medication from the ampoule or vial

4. Prevention of sharps injuries to health workers

To avoid sharps injuries:

- Ensure that the patient is adequately prepared for the procedure;

- Do not bend, break, manipulate or manually remove needles before disposal;
- Avoid recapping needles, but if a needle must be recapped, use a single-handed scoop technique;
- Discard used sharps and glass ampoules immediately after use in the location where they were used, disposing of them into a robust sharps container that is leak and puncture resistant;
- Place the sharps container within arm's reach (preferably in a secured area) to allow for easy disposal of sharps;
- Seal and replace sharps container when the container is three quarters full.

5. Waste management

To ensure that waste is dealt with safely:

- Transport and store sharps containers in a secure area before final disposal;
- Close, seal and dispose of sharps containers when the containers are three quarters full; Assign responsibility in written policy for monitoring the fill level of sharps containers and replacing them when three quarters full;
- Discard waste that is not categorized as sharp or infectious in appropriate colour-coded bags
- Ensure that infectious waste bags and sharps containers are closed before they are transported for treatment or disposal.

Annex 12: SARI Treatment facility minimum standards³²

Area	WHO Standard
<p>Water <i>(Consider for: drinking water, Handwashing, Cleaning, Decontamination, Showers/toilets, Laundry, Food prep, Fire safety)</i></p>	<ul style="list-style-type: none"> - 250 liters/staff member/day (+ 2 days backup) - 100 liters/patient/day for inpatients - Waste water drainage - Proper storage - Water testing should always be done when possible - At least 2 handwashing stations should be in wards with more than 20 patients
<p>Sewage/septic</p>	<ul style="list-style-type: none"> - Toilets should be one per 20 users for inpatient setting - Hand washing stations should always accompany toilet areas - Toilets are separated by gender, also by staff and patient area - Ensure toilets are within reasonable walking distance from critical care areas - Functioning septic tank and drainage system should be in place
<p>Electricity For further details on electricity standards, please visit the <u>WHO SARI treatment center guidelines</u></p>	<ul style="list-style-type: none"> - Ensure electricity meets national/local standards - Facility must have 1 electrical panel including: electricity meter (if necessary), general circuit breaker, distribution table for different circuits with differential disjuncture. - Adequate plugs and wires to standard

³² <https://www.who.int/publications/i/item/10665-331603>

<p>Waste management</p>	<ul style="list-style-type: none"> - <i>Non-infectious waste</i> (e.g. packing, food waste, disposable hand drying towels)ⁱ; and <i>infectious waste</i> produced during patient care, including those with confirmed COVID-19 infection (e.g. sharps, bandages, pathological waste) and should be collected safely in clearly marked lined containers and sharp boxes. This waste should be treated, preferably on-site, and then safely disposedⁱⁱ. - General waste should be segregated from infectious in clearly marked bins, bagged and tied, and disposed as general municipal wasteⁱⁱⁱ. - Waste should also be separated at the point of care - Waste storage should be at least 30 meters from ground water source^{iv} - Hand washing station must also be located at all waste storage/disposal areas
<p>Ventilation</p>	<ul style="list-style-type: none"> - For critical care, hybrid ventilation is recommended. - Critical care ventilation needs 160 L/sec/patient - For non-critical wards, WHO recommends air ventilation at 60 liters/second/person
<p>Security</p>	<ul style="list-style-type: none"> - Ensure good access and guaranteed security for patients, visitors, and staff

ⁱ <https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC-WASH-2020.4>

ⁱⁱ https://www.who.int/water_sanitation_health/facilities/waste/en/

ⁱⁱⁱ <https://www.who.int/publications/i/item/WHO-2019-nCoV-IPC-WASH-2020.4>

^{iv} https://www.who.int/water_sanitation_health/publications/ehs_hc/en/

Annex 13: Monitoring checklist for Isolation Centers ³³



MINISTÉRIO DA
SAÚDE



Servisu Sekretariadu
Covid-19 IPC Pilar VI

COVID-19: Monitoring Checklist for Infection Prevention & Control
Practices in Isolation centers

Checklist details

The objective of the checklist to follow up and support the IPC practices in isolation centers. Pillar 6 teams will monitor the IPC practices in the isolation centers on a routine basis and will provide necessary supports for IPC implementation.

How to fill up the checklist: Please use a variety of methods: discussing with relevant authority, health workers; check documentations (meeting minutes, reports, monitoring schedule, tools etc.), observe practice, physical checking of situation. For every yes, there will be 1 point given and each yes answer is to be ticked in the box for further categorization of the status. Remarks column requires to be filled to provide the justification of the scoring.

The final score that will result from filling up the checklist will provide an indication on the performance of the each category of places. The monitoring team will share the findings with the respective heads/managers of the health

³³ Source: Ministry of Health, Timor-Leste

facility/centers/institutions/offices. This will guide them to prepare their action plan to fix identified areas. In case where the information is not available, code 99 may be used and 88 can be used where the situation is not applicable.

After completion of filling up the checklist and summarization of scoring, the team will share the findings to the isolation authority. Necessary supports will be ensured from relevant departments for the isolation center IPC management.

Checklist for Isolation centers

SL	Questions	Yes (score 1)		No(score 0)	Remarks
		Satisfactory		Average	Unsatisfactory
	Administration				
1	Does the isolation center have a dedicated team/focal person to monitor IPC implementation?				
2	Does the IPC team/focal person review IPC activities regularly?				
3	Does the isolation center have a system to keep records (inventory) including register, records of stocks etc related to IPC logistics, supplies?				
4	Is there a crisis management plan to meet up shortage of PPE, IPC supplies?				
5	Does the facility maintain a rotational shift and back up planning for staffs involved in IPC?				
	Guideline and orientation				
1	Does the center have any protocol/guideline for IPC practices? (Please check all available guidelines and write in the remarks section)				
2	Are the staffs oriented on IPC protocol/guideline? (Please write the details in the remarks section, i.e, training by whom and duration)				

3	<p>Are the staffs oriented on how to use PPEs?</p> <p>(Please write the details in the remarks section, i.e, training by whom and duration)</p>				
4	<p>Are critical staffs (who provide care to the isolated cases) oriented on IPC on a regular basis?</p> <p>(Please ask the details on any schedule for orientation or relevant documents)</p>				
5	<p>Are the relevant staffs oriented on calculating and managing IPC supplies including PPEs?</p>				
	Logistic availability				
1	<p>Does the center have adequate personal protective equipment (PPE)?</p> <p>(Please check stocks, talk to manager if they had stock-out any time, write details in remarks)</p>				
2	<p>Are the PPEs available to all staffs?</p> <p>(Ask the process to obtain PPE by staffs)</p>				
3	<p>Does the center have adequate stock of disinfectants? (Check stocks, talk to manager, cleaners)</p>				
4	<p>Does the center have adequate handwashing materials (i.e, soap, alcohol-based hand sanitizer)?</p>				

5	Does the isolation center have colour-coded waste bins?				
	Information, dissemination and communication				
1	Does the center have dedicated staff/s for counseling on IPC practices?				
2	Does the center have a system to make aware the isolated individuals on the precautionary measures?				
3	Does the center have displayed information on IPC (leaflets, posters) at strategic places (entrance, isolation ward, staff room etc)?				
4	Are there displayed posters on hand washing techniques near the HH stations?				
5	Does the staffs have access to information related to IPC practices?				
	Infrastructure including hand washing facilities and practices				
1	Does the center have running water?				
2	Does the center have adequate hand hygiene facilities				
3	Are the HH facilities well equipped?				
4	Do all staffs have access to the hand washing facilities located at strategic areas?				
5	Is there a designated area for donning & doffing				

	PPE?				
6	Is there a hand washing station (soap with dispenser / hand sanitizer) located at donning & doffing areas?				
7	Does the center have dedicated area(s) for the disinfection and sterilization of biomedical equipment and material devices?				
8	Does the center have well-ventilated single rooms for cases or at least have beds having 1-2 meter distance?				
9	Is there any separate sample collection area which is regularly cleaned and disinfected				
10	Does the center have a laundry?				
	Monitoring on IPC				
1	Does the isolation center have a system to observe handwashing practices?				
2	Does the isolation center have a system to observe staff's PPE wearing practices?				
3	Does the isolation center have a system to observe IPC practice of the isolated individuals (PPE wearing, HH, respiratory hygiene?)				
4	Does the isolation center have a system to monitor waste management and disposal (following guideline)?				

5	Are linens used by the cases/suspected cases being cleaned (using regular laundry soap and water or machine wash at 60-90 °C) regularly and dried thoroughly?				
6	Is the ambulance being disinfected every time a case (suspected/confirmed) was carried?				
7	Does the center maintain a visitor's log book to manage minimal entry of visitors?				
8	Is there any protocol /a regular schedule for cleaning and disinfection of working surfaces?				
9	Is there any protocol /a regular schedule for cleaning and disinfection of rooms/spaces used by isolated cases?				
10	Is a PPE breach log in place and being maintained?				
	Environmental cleaning				
1	Does the center allocate designated personnel for supervising the environmental cleaning?				
2	Are the frequently touched surfaces being cleaned and disinfected on a daily basis with regular disinfectant (containing a diluted bleach solution (that is, 1-part bleach to 99 parts water)?				
3	Are the bathrooms, toilet surfaces being cleaned and disinfected on a daily basis with regular disinfectant?				

4	Are the rooms used by cases or suspected cases being cleaned and disinfected on a daily basis with regular disinfectant?				
5	Do the cleaning personnel use gloves during cleaning activities?				
	Total score				
	Percentage obtained (Score obtained/max score*100)				

Summary findings:

Summary recommendation:



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