

## MSF Environmental Health guidance in COVID-19 – intersection

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### Introduction

This guidance is based on official WHO guidance<sup>1,2</sup> and MSF expert recommendations for the MSF minimum Environmental health cleaning, disinfection and infrastructure in MSF run or supported healthcare facilities plus other MSF buildings. It aims to provide information about what facility infection control measures are most appropriate for COVID-19. This is an evolving outbreak, guidance may change. Please check for the latest version.

### Transmission

COVID-19 is spread primarily via respiratory droplets—small amounts of liquid released as someone infected coughs, sneezes, or talks. Viruses contained in these droplets can infect other people via the eyes, nose, or mouth—either when they land directly on somebody's face or when they're transferred there by people touching their face with contaminated hands.

It is also possible for the virus to be transferred via surfaces contaminated by respiratory droplets or other secretions from an infected person. It is now well known that healthcare environments contribute significantly to the transmission of microbes (including bacteria, fungi and viruses) that cause healthcare-associated infections (HAIs) – for patients, HCWs and visitors/caretakers.

### Health facility contamination

It has been recently reported that viable virus could be detected up to 2-3 days on plastic and stainless steel.<sup>1</sup> Preliminary information suggests the virus can survive depending on the type of surface, temperature or humidity of the environment. It has also been found that effective inactivation of human coronaviruses is achieved using common disinfectants.

### Standard Precautions to be applied in all healthcare facilities at all times.

Standard precautions are the measures that should be followed to reduce the risk of transmission of COVID-19 and other pathogens from both recognized and unrecognized sources. Standard precautions include hand hygiene, use of personal protective equipment (PPE – including gloves, apron/gown, mask, eye protection), prevention of accidental exposure to bodily fluids (including needle stick injuries), injection safety, respiratory hygiene/cough etiquette, environmental cleaning/disinfection, handling of linens, waste management, and cleaning/disinfection of reusable medical devices and equipment.

**For suspected/confirmed cases of COVID-19, transmission-based precautions must also be applied to prevent healthcare transmission. See MSF PPE Guidance for COVID-19<sup>2</sup>**

### How MSF projects ensure appropriate environmental health within their healthcare facilities:

Ensure that standard precautions are applied by all staff at all times; the WatSan Essential Requirements for Health Structures are in place and carefully manage facilitation on environmental health such as product and equipment supplies and human resources - adequate amount and they are monitored (e.g. consumption/calculation of shortages to be considered).

Additional IPC specific training is recommended for all relevant staff. Training of staff should include standard and transmission-based precautions, appropriate use of PPE, decontamination of medical devices and patient care equipment, environmental cleaning and healthcare management. For relevant staff, training on triage of infectious patients and infrastructural and process changes to allow for management of those patients.

### For proper cleaning/disinfection, projects need to ensure: (Also refer to IPC Pillar 2 Guidelines<sup>3</sup>)

- that the facility has a routine cleaning and disinfection schedule for all areas
- that relevant staff are aware and trained on the protocols and processes in that schedule

- Proper technique is used by cleaners/staff e.g. using two buckets method, clean to dirty, top to bottom
- Staff have adequate equipment and products, e.g. buckets, mops, spray bottles, etc.
- Ensure that routine cleaning and disinfection is occurring consistently and correctly (recommend extra checks during this period)
- Dilutions of cleaning and disinfection solutions are required to be changed at least every day.

Table 1: Environmental Health guidance in COVID-19

TARGETED AREA / AUDIENCE / ACTIVITY	RECOMMENDATIONS
<b>Hand Hygiene</b>	
<ul style="list-style-type: none"> <li>• Healthcare facility</li> <li>• Community</li> </ul>	<ul style="list-style-type: none"> <li>• Regularly and thoroughly clean your hands with an alcohol-based hand rub (ABHR) or wash them with soap and water. Soap and water must always be used if hands are visibly dirty.</li> <li>• In clinical areas, ABHR is the preferred option (if hands are not visibly soiled) between patient and for aseptic procedures.</li> <li>• Health care workers should reinforce the importance of hand hygiene with patients, caretakers and visitors at every opportunity (options to support this, e.g. extra hand hygiene points at entry, extra health promotion staff, reminders.)</li> <li>• In community sites where there is <b>no access to soap</b>, a solution of 0.05% chlorine solution can be used, but this is not ideal as frequent use may lead to dermatitis and risk of skin infection. This is not recommended for healthcare facilities.</li> </ul>
<b>Hygiene practices</b>	
<ul style="list-style-type: none"> <li>• Healthcare facility</li> <li>• Community</li> </ul>	<ul style="list-style-type: none"> <li>• Maintain at least 1 metre (3 feet) distance between yourself and anyone who is coughing or sneezing. If a greater distance than that possible, that is preferred.</li> <li>• Avoid touching your eyes, nose and mouth.</li> <li>• Make sure you, and the people around you, follow good respiratory hygiene. This means covering your mouth and nose with your bent elbow or tissue when you cough or sneeze. Dispose of the used tissue immediately and perform hand hygiene.</li> <li>• Stay home if you feel unwell. If you have a fever, cough and difficulty breathing, seek medical attention and call in advance. Follow the directions of your local health authority.</li> <li>• Health care workers should provide education and remind patients, caretakers, visitors and other staff to adhere to these measures.</li> </ul>
<b>Cleaning/ Disinfection</b>	
Healthcare facilities - non-clinical / administration spaces	<ul style="list-style-type: none"> <li>• Existing MSF cleaning and disinfection procedures should be consistently and correctly followed</li> </ul>
Healthcare facilities with <u>no suspected or confirmed cases</u>	<ul style="list-style-type: none"> <li>• Existing MSF cleaning and disinfection procedures should be consistently and correctly followed</li> </ul>
Healthcare facility – <u>with suspected or confirmed cases</u> In areas where cases are managed e.g. triage, ER, isolation areas, waiting room, transition areas, etc.	<ul style="list-style-type: none"> <li>• <b>Existing MSF cleaning and disinfection procedures should be consistently and correctly followed</b></li> <li>• <b>Frequency of cleaning and disinfection has to be increased at least twice daily and in between patients (where indicated)</b></li> <li>• Cleaning with soap and water and disinfection with chlorine for beds, surfaces and floors is the preferred option for environmental cleaning (due to forecast of shortages of Surfanios)</li> <li>• We recommend prioritizing Surfanios for high-risk areas (e.g. OT, ICU, NICU, delivery room) and reusable medical equipment.</li> <li>• Cleaning and disinfection of surfaces requires cleaning with soap and water, rinse</li> </ul>

	<p>and then disinfect with <b>0.1% chlorine</b> solution. *WHO recommendations currently in some documents <b>0.5% chlorine</b> solution – latest documents changed to 0.1% chlorine dilution</p> <ul style="list-style-type: none"> <li>• For the clinical areas, the cleaning and disinfection needs to be done <b>at least twice daily</b>, with focus on high touch surfaces (e.g. bed rails, bedside chairs, tables, door handles, and equipment what is a high touch surface)</li> <li>• Ensure terminal cleaning after discharge of patient in isolation areas<sup>3</sup></li> <li>• Cleaning and disinfection of environments where suspect and/or confirmed COVID-19 patients are treated should be done by trained staff using appropriate PPE and dedicated cleaning equipment</li> <li>• We <u>do not</u> recommend use of high-pressure back pack sprayers due to the risk of aerosolisation of chemicals</li> </ul>
Vehicles, ambulances used by Health facility to transfer suspected or confirmed cases	<ul style="list-style-type: none"> <li>• Clean with water and soap, rinse with water and disinfect with chlorine 0.1% solution after exposure to cases. Chlorine should be rinsed with clear water, but ensure before at least 1 minute contact time with the chlorine solution. Ensure good ventilation of vehicle during and after chlorine use (doors/windows open).</li> <li>• Cleaning and disinfection of environments where suspect and/or confirmed COVID-19 patients are treated should be done by trained staff using appropriate PPE and dedicated cleaning equipment.</li> <li>• Technique – always start from top to down (walls, benches, stretchers, floors) and from front end towards the exit doors of the ambulance.</li> </ul>
Non-healthcare buildings – e.g. MSF residence/ compound	<ul style="list-style-type: none"> <li>• The joint IPC-Watsan group recommends no changes to usual cleaning and disinfection routines. However, relevant manager should ensure that routine cleaning (and disinfection) is occurring properly and routinely.</li> </ul>
<b>PPE for cleaners / hygiene agents/ hygiene officers in healthcare facilities <sup>1</sup></b>	
Cleaners – use of household gloves	<ul style="list-style-type: none"> <li>• Cleaners should use protective gloves (household) that can be reused.</li> <li>• Between each patient / isolation area the cleaner must clean the reusable gloves.</li> <li>• In between patient use, cleaners can rinse reusable gloves with 0.1% chlorine and then rinse in water (e.g. separate bucket or container with tap).</li> <li>• Ensure hand hygiene before and after using gloves</li> <li>• Single use/ double gloves – may not be recommended at this stage due to projected supply constraints</li> </ul>
All reusable PPE	<ul style="list-style-type: none"> <li>• All reusable PPE should be collected and taken to the laundry for safe treatment (face shield, household gloves, goggles, boots)</li> <li>• The use of coveralls, hood, shoe covers is not recommended for cleaners</li> </ul>
<b>Treatment of reusable medical equipment</b>	
Reusable medical equipment when <u>no suspected or confirmed cases</u>	<ul style="list-style-type: none"> <li>• Existing MSF cleaning and disinfection procedures should be consistently and correctly followed (including sterilization when indicated)</li> <li>• For medical devices requiring disinfection and sterilization, continue to use existing protocols only (hexanios/anios D).</li> </ul>
Reusable medical equipment when <u>suspected or confirmed cases</u> present	<ul style="list-style-type: none"> <li>• Existing MSF cleaning and disinfection procedures should be consistently and correctly followed</li> <li>• Protocol for reusable medical equipment remains the same – for example bedpans and urinals must be emptied, then washed with soap and water, rinsed, disinfected with chlorine 0.1% and rinsed.</li> <li>• Surfanios may have supply issues and therefore should be prioritized by missions for processing of biomedical equipment and cleaning of high-risk areas – specifically operating theatres.</li> <li>• In case of shortages of Surfanios, use water and soap, rinse and wipe with chlorine solution 0.1%</li> <li>• Ensure patient dedicated equipment as much as possible. In case this is not feasible,</li> </ul>

	<p>cleaning/disinfection of the equipment must be done between patients.</p> <ul style="list-style-type: none"> <li>For medical devices requiring disinfection and sterilization, continue to use existing protocols only (hexanios/anios D).</li> </ul>
<b>Linen and laundry</b>	
Healthcare facilities with or without confirmed or suspected cases	<ul style="list-style-type: none"> <li>Existing MSF laundry procedures should be consistently and correctly followed.</li> <li>Laundry staff should be trained and wear the appropriate PPE.</li> <li>Routine procedure: Soiled linens should be carefully transported in sealed bags or containers laundered using detergent and water, <b>soaked in 0.1% chlorine solution for 5 minutes</b>, and rinsed again with clear water</li> </ul> <p>*WHO recommend chlorine solution of 0.05% soak for 30 minutes. With evidence provided, MSF agreed to follow existing laundry procedures of 0.1% chlorine solution and 5 minutes contact.</p>
HCW work clothes involved in areas with suspected or confirmed cases	<ul style="list-style-type: none"> <li>Existing MSF laundry procedures should be consistently and correctly followed.</li> <li>Recommend that staff should have access to work uniforms that can be reprocessed in the facility laundry.</li> </ul>
Reusable PPE	<ul style="list-style-type: none"> <li>Existing MSF laundry procedures should be consistently and correctly followed.</li> </ul>
<b>Waste Management in healthcare facilities</b>	
Waste Management with or without confirmed or suspected cases	<ul style="list-style-type: none"> <li>Existing MSF waste management procedures should be consistently and correctly followed, this includes healthcare waste, excreta and wastewater</li> <li>Remind all involved with waste management of importance of hand hygiene before and after putting on the PPE</li> <li>All soft waste from the isolation room should be placed inside bags, sealed and brought directly to the waste zone.</li> <li>PPE should be removed outside isolation area and disposed of immediately</li> <li>Sharps should be placed in either reusable sharp containers (preferably) or in the cardboard safety boxes placed inside of a bucket, to avoid any spill.</li> </ul>
<b>Dead body management in healthcare facilities</b>	
Mortuary and dead body management	<ul style="list-style-type: none"> <li>Existing MSF body management procedures should be consistently and correctly followed</li> <li>Standard, contact and droplet based precautions continue to apply while body remains in the care environment.</li> <li>Safely clean and disinfect surfaces as per regular MSF protocol</li> </ul>
<b>Environmental control in healthcare facilities</b>	
<ul style="list-style-type: none"> <li>Infrastructure</li> </ul>	<p>**Guidance in this area is under development – more to follow.</p> <ul style="list-style-type: none"> <li>Do not use air con/fans in isolation areas or suspected/confirmed patient areas</li> <li>Encourage teams to identify /use well-ventilated/ open spaces for screening /triage, waiting areas, etc.</li> <li>Cross air flow should be avoided to be into other wards or corridors</li> <li>For more details / specifications on airflow for a specific site, contact your technical referent.</li> </ul>
<b>Food preparation and Kitchen in the healthcare facilities</b>	
Food preparation and kitchens	<ul style="list-style-type: none"> <li>Existing MSF food preparation and distribution procedures should be consistently and correctly followed</li> </ul>
<b>MSF staff under quarantine and/or isolation</b>	
Non-healthcare buildings – MSF staff under quarantine and/or isolation	<p>Follow WHO and relevant national recommendations:</p> <ul style="list-style-type: none"> <li>Quarantine doc from WHO : <a href="https://www.who.int/publications-detail/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-(covid-19)">https://www.who.int/publications-detail/considerations-for-quarantine-of-individuals-in-the-context-of-containment-for-coronavirus-disease-(covid-19)</a></li> <li>Self-isolation doc from WHO (home care 4.2): <a href="https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts">https://www.who.int/publications-detail/home-care-for-patients-with-suspected-novel-coronavirus-(ncov)-infection-presenting-with-mild-symptoms-and-management-of-contacts</a></li> </ul>

## References:

1. <https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19>
2. <https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>
3. Doremalen, Bushmaker, Morris, et.al. MEDRXIV [online] Mar 2020. Aerosol and surface stability of HCoV-19 (SARS-CoV-2) compared to SARS-CoV-1  
doi: <https://doi.org/10.1101/2020.03.09.20033217>
4. MSF PPE Guidance for COVID-19
5. MSF IPC-Pillar 2 Cleaning and Disinfection Guideline: Environmental and Reusable Medical Devices 02/2019