

Environmental cleaning and disinfection in non-health-care settings in the context of COVID-19

Interim guidance

30 March 2020



1. Introduction

In January 2020, the World Health Organization (WHO) declared the outbreak of a new coronavirus disease (COVID-19) in Hubei Province, China, to be a public health emergency of international concern.

This document provides interim guidance for when a COVID-19 case is suspected or confirmed in non-health-care settings, such as hotels and other public places. It is intended to limit the survival of the virus in these environments and prevent the transmission of diseases. This guidance will be updated as more information becomes available.

1.1 Background: COVID in environment

When someone with COVID-19 coughs or exhales, they release droplets of infected fluid.

A person standing close to someone with COVID-19 (within 1 metre) can become infected by breathing in droplets coughed or exhaled into the air.

But most of these droplets fall on nearby surfaces and objects, such as tables or telephones. People catch COVID-19 by touching contaminated surfaces or objects, then touching their eyes, nose or mouth.¹

In fact, contamination on surfaces, especially those frequently touched by multiple people (e.g. employees, customers, clients and the general public), is one of the main ways that the disease spreads.

Frequently touched surfaces must be identified, then regularly cleaned and disinfected to reduce the risk of infection. These surfaces include lift or elevator buttons, handrails, doorknobs and handles, armrests, seatbacks, tables, light switches, keyboards, remote controls and many other items.

2. General prevention measures

Precautions should be taken by all employees and users of non-health-care settings to prevent the potential spread of COVID-19. These include:

- Promote regular and thorough hand hygiene by everyone through handwashing with soap and water or alcohol-based hand rub. Providedispensers with alcohol-based hand rub (at least 60% ethyl alcohol) in prominent places throughout the setting. Ensure hand hygiene stations are placed in front of all entrance/exit points to allow everyone to practise hand hygiene when entering and leaving.²
- Avoid touching eyes, nose or mouth, especially when hands are not clean.
- Promote good respiratory hygiene. Cough or sneeze into bent elbows. If not, a disposable tissue should be used to cover mouth and nose when coughing or sneezing, then thrown in a bin with a lid. Perform hand hygiene after disposal.
- Practise physical distancing. Maintain a minimum 1-meter distance, where possible. Limit the number of people in confined spaces, such as lifts.

- Individuals with respiratory symptoms or fever should stay home/be isolated and seek medical advice.
- If an employee or a customer has a suspected or confirmed COVID-19 infection, identify the areas they have used or visited. These areas require thorough cleaning and disinfection.

3. Principles of environmental cleaning and disinfection

3.1 General cleaning and disinfecting principles

Environmental cleaning and disinfection procedures should be followed consistently and correctly.³

Cleaning with detergent and water, followed by rinsing and drying, is the most useful method for removing germs from surfaces. Enveloped viruses, including the one causing COVID-19, are sensitive to detergents. Detergents help to loosen the germs so that they can be rinsed away with clean water. Mechanical cleaning (scrubbing the surface) physically reduces the number of germs on the surface. Rinsing with clean water removes the loosened germs and any detergent residues from the surface, and drying the surface makes it harder for germs to survive or grow. **Surfaces must be cleaned prior to disinfection.**

Disinfecting, or using chemicals to kill germs on surfaces, can further lower the risk of spreading infection. After applying a disinfectant, wait for the required exposure time to ensure it kills germs on the surface. Once the contact time has lapsed, the disinfectant may be rinsed with clean water.

- Disinfectants are not substitutes for cleaning. All surfaces must be cleaned with soap and water **before** applying a disinfectant.
- Where possible, proceed from cleaner to dirtier areas to avoid spreading dirt and germs.³ Consider cleaning less-frequently touched surfaces before frequently touched surfaces.
- Use separate cleaning tools and freshly prepared solutions for toilets and bathroom surfaces.
- Where possible, use disposable cloths/paper towels and disposable mop heads. Alternatively, ensure used cloths and mop heads are laundered and dried after use to minimize contamination.
- Whenever a disinfectant is used, measures should be taken to prevent chemical hazards among the cleaning staff. These include the use of proper personal protective equipment (PPE). Minimal PPE required for cleaning staff includes heavy-duty gloves, an impermeable apron and closed shoes. Eye protection and medical masks may be required to protect against chemicals or the risk of splashing from blood or body substances.⁴ Cleaning staff should perform hand hygiene before putting on and after removing PPE.
- If possible, keep windows open for ventilation while using disinfectants.



- Never spray a detergent or disinfectant directly on any surface, as it can create splashes, aerosolize particles or make the spill bigger. Instead, apply cleaning agents/disinfectants to cloths/paper towels to decontaminate surfaces.
- Never double-dip cleaning cloths into portable containers used for storing environmental cleaning products, such as bottles of small buckets. used for storing environmental cleaning products.
- Never shake mop heads and cleaning cloths, because this may disperse droplets or dust that could contain germs.
- Do not hang up and swat carpets, rugs or mats, because this may also disperse germs.

3.2 Recommended disinfectant solutions

For environmental cleaning in settings with suspected or confirmed cases, use disinfectants that are active against enveloped viruses such as the COVID-19 virus.

WHO recommendations include:⁵

- **sodium hypochlorite** (bleach) at 0.1% (equivalent to 1000 parts per million, or ppm) for disinfection of surfaces; and
- **70% alcohol/ethanol-containing solution** for disinfection of small items or items that cannot tolerate bleach.

Always follow manufacturer instructions for dilution and handling of cleaning agents.

Diluted bleach must be used within 24 hours of preparation, as decomposition increases over time if unused.⁶ A new batch must be made every 24 hours and kept in a container that has been cleaned and dried.

4. Handling of linen

Used linens, such as bed sheets as well as bath and hand towels, should be handled carefully to prevent contamination of the handler or the surroundings.⁷

- Use PPE for handling soiled linens. This should include heavy-duty gloves, plastic aprons, masks and closed shoes. Face/eye protection should be considered if there is high risk of contact or exposure to blood or other body substances.
- Place soiled linen in a laundry bag. Solid excrement should be carefully removed and put in a covered bucket to be disposed of in a toilet or latrine.
- Arrange for a cleaning contractor to properly disinfect mattresses, pillows, cushions and carpets.
- Hot-water laundry cycles require washing with detergent or disinfectant in 70 °C water for at least 25 minutes.

- Consider soaking linens for 30 minutes in 0.5% sodium hypochlorite prior to washing in a hot-water cycle.
- Low-temperature laundry cycles (less than 70 °C) require a disinfectant suitable for low-temperature washing.
- Laundered items can then be dried according to routine procedures.



- Do not shake soiled laundry to minimize dispersing the virus into the air.
- Avoid direct contact of skin and clothes with contaminated materials.

5. Waste disposal

Handle all waste with care. Staff should take the same PPE precautions as with handling soiled linen.

- Hold waste bags away from the body.
- Secure waste in a general waste bag and dispose of as per facility protocol.
- Dispose of cleaning solutions as per facility guidelines.

6. Guidance development

6.1 Acknowledgements

This document was developed by a guidance development group composed of staff from the WHO Regional Office for the Western Pacific (WHO Health Emergencies Programme and Division of Health Systems and Services).

6.2 Guidance development methods

This document was based on WHO COVID-19 global interim guidance, review of relevant literature, expert consultation, and guideline development group discussion and consensus.

6.3 Declaration of interests

Interests have been declared in line with WHO policy, and no conflicts of interest were identified from any of the contributors.

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