



Leading Health agencies have recommend the use of Sodium Hypochlorite and Hypochlorous Solution.

This is the disinfectant produced by the **Disinfection Systems of Pristine Water®**

## Operational considerations for COVID-19 management in the accommodation sector

Interim guidance  
31 March 2020



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### 1. Cleaning and disinfection

“The following should be implemented for rooms or specific areas exposed to COVID-19 cases:

- Any surfaces that become soiled with respiratory secretions or other body fluids of the ill person(s), e.g. toilet, handwashing basins, and baths should be cleaned with a regular household disinfectant solution containing **0.1% sodium hypochlorite (that is, equivalent to 1000 ppm)**. Surfaces should be rinsed with clean water after 10 minutes contact time for chlorine. Surfaces should be rinsed with clean water after sufficient contact time for the chlorine”

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Ambulance or transport vehicles should be cleaned and disinfected with special attention to the areas in contact with the suspected case. Cleaning should be done with regular household disinfectant solution containing **0.5% sodium hypochlorite** (i.e. equivalent 5.000 pm chlorine or 1 part of household bleach containing 5% of sodium hypochlorite to 99 parts of water). After the bleach has been allowed to remain in contact with the surface for at least 1 minute



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# Water, sanitation, hygiene, and waste management for the COVID-19 virus

Interim guidance  
19 March 2020

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It is not certain how long the virus that causes **COVID-19** survives on surfaces, but it seems likely to behave like other coronaviruses. A recent review of the survival of human coronaviruses on surfaces found large variability, ranging from 2 hours to 9 days.<sup>11</sup> The survival time depends on a number of factors, including the type of surface, temperature, relative humidity, and specific strain of the virus. The same review also found that effective inactivation could be achieved within 1 minute using common disinfectants, such as 70% ethanol or **sodium hypochlorite** (for details, see Cleaning practices).

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## Cleaning practices

Recommended cleaning and disinfection procedures for health care facilities should be followed consistently and correctly. Laundry should be done and surfaces in all environments in which COVID-19 patients receive care (treatment units, community care centres) should be cleaned at least once a day and when a patient is discharged.<sup>27</sup> 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.**

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When there are suspected or confirmed cases of **COVID-19 in the home setting**, immediate action must be taken to protect caregivers and other family members from the risk of contact with respiratory secretions and excreta that may contain the COVID-19 virus. 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,<sup>29</sup> and hand hygiene with an alcohol-based hand rub or soap and water should be performed after removing PPE.



# Infection prevention and control during health care when COVID-19 is suspected

Interim guidance  
19 March 2020



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It is important to ensure that environmental cleaning and **disinfection procedures** are followed consistently and correctly. Thoroughly cleaning environmental surfaces with water and detergent and applying commonly used hospital level disinfectants (such as **sodium hypochlorite**) are effective and sufficient procedures.<sup>8</sup> Medical devices and equipment, laundry, food service utensils, and medical waste should be managed in accordance with safe routine procedures.

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Using environmental and engineering controls

These controls address the basic infrastructure of the health care facility and aim to ensure adequate ventilation in all areas in the health care facility, as well as adequate environmental cleaning. Additionally, separation of at least 1 metre should be maintained between all patients. Both spatial separation and adequate ventilation can help reduce the spread of many pathogens in the health care setting. Ensure that cleaning and disinfection procedures are followed consistently and correctly. Cleaning environmental surfaces with water and detergent and applying commonly used hospital disinfectants (such as **sodium hypochlorite**) **is effective and sufficient**.

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# Guideline for Disinfection and Sterilization in Healthcare Facilities, 2008

Update: May 2019

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## Disinfection in the Haemodialysis Unit

Haemodialysis systems include haemodialysis machines, water supply, water-treatment systems, and distribution systems. During haemodialysis, patients have acquired bloodborne viruses and pathogenic bacteria. Cleaning and disinfection are important components of infection control in a haemodialysis centre. EPA and FDA regulate disinfectants used to reprocess hemodialyzers, haemodialysis machines, and water-treatment systems. Noncritical surfaces (e.g., dialysis bed or chair, countertops, external surfaces of dialysis machines, and equipment [scissors, haemostats, clamps, blood pressure cuffs, stethoscopes]) should be disinfected with an EPA-registered disinfectant unless the item is visibly contaminated with blood; in that case a tuberculocidal agent (or a disinfectant with specific label claims for HBV and HIV) or a 1:100 dilution of a **hypochlorite solution (500–600 ppm free chlorine) should be used**. This procedure accomplishes two goals: it removes soil on a regular basis and maintains an environment that is consistent with good patient care. Hemodialyzers are disinfected with peracetic acid, formaldehyde, glutaraldehyde, heat pasteurization with citric acid, and chlorine-containing compounds. Haemodialysis systems usually are disinfected by **chlorine-based disinfectants (e.g., sodium hypochlorite)**, aqueous formaldehyde, heat pasteurization, ozone, or peracetic acid. All products must be used according to the manufacturers' recommendation.

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**CDC announced that a previously unrecognized human virus from the coronavirus family** is the leading hypothesis for the cause of a described syndrome of SARS 301. Two coronaviruses that are known to infect humans cause one third of common colds and can cause gastroenteritis. The virucidal efficacy of chemical germicides against coronavirus has been investigated. A study of disinfectants against coronavirus 229E found several that were effective after a 1-minute contact time; these included **sodium hypochlorite (at a free chlorine concentration of 1,000 ppm and 5,000 ppm)**, 70% ethyl alcohol, and povidone-iodine (1% iodine) 186. In another study, 70% ethanol, 50% isopropanol, 0.05% benzalkonium chloride, 50 ppm iodine in iodophor, 0.23% sodium chlorite, 1% cresol soap and 0.7% formaldehyde inactivated >3 logs of two animal coronaviruses (mouse hepatitis virus, canine coronavirus) after a 10-minute exposure time.



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## Guidelines for disinfection of quarantine facility (for COVID-19)

### Environmental cleaning:

Due to the potential survival of the virus in the environment for several days, the premises and areas potentially contaminated with the 2019-nCoV should be cleaned before their re-use, using products containing antimicrobial agents known to be effective against coronaviruses. Although there is lack of specific evidence for their effectiveness against 2019-nCoV virus, cleaning with water and household detergents and use of common disinfectant products should be sufficient for general precautionary cleaning. Tests carried out using SARS-CoV **showed that sodium hypochlorite is effective.** These guidelines provide guidance for environmental cleaning in quarantine facilities housing people exposed/ potential exposure to COVID-19 and have been adapted based on the **Hospital Infection Prevention and Control guidelines** drafted by NCDC in collaboration with WHO and other stakeholders.



## World Health Organization

It is important to ensure that environmental cleaning and disinfection procedures are followed consistently and correctly. Thoroughly cleaning environmental surfaces with water and detergent and applying commonly used hospital level disinfectants (such as **Sodium Hypochlorite**) are effective and sufficient procedures.

7 Medical devices and equipment, laundry, food service utensils and medical waste should be managed in accordance with safe routine procedures.

**Reference.** World Health Organization. (2019). *Infection Prevention and Control during Health Care when Novel Coronavirus (nCoV) Infection is Suspected*. WHO/2019-nCoV/IPC/v2020.1



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## Infection prevention and control of epidemic- and pandemic-prone acute respiratory infections in health care

WHO Guidelines



Refer to Annex G of the document

### Use of disinfectants: alcohol and bleach

Different countries have different disinfection protocols. Health-care facilities with limited resources may not have access to a variety of hospital disinfectants, however, alcohol and bleach are acceptable chemical disinfectants if used appropriately. As with any other disinfectants, soiled surfaces need to be cleaned with water and detergent first.

**G.1 Alcohol** Alcohol is effective against influenza virus (252). Ethyl alcohol (70%) is a powerful broadspectrum germicide and is considered generally superior to isopropyl alcohol. Alcohol is often used to disinfect small surfaces (e.g. rubber stoppers of multiple-dose medication vials, and thermometers) and occasionally external surfaces of equipment (e.g. stethoscopes and ventilators).

**G.2 Bleach** Bleach is a strong and effective disinfectant – its active ingredient **sodium hypochlorite is effective in killing bacteria, fungi and viruses, including influenza virus** – but it is easily inactivated by organic material. Diluted household bleach disinfects within 10–60 minutes contact time (see Table G.1 below for concentrations and contact times), is widely available at a low cost, and is recommended for surface disinfection in health-care facilities.



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**Table G.1 Sodium hypochlorite: concentration and use**

|   |
|---|
| <b>Starting solution</b><br>Most household bleach solutions contain 5% sodium hypochlorite (50 000 ppm available chlorine).   |
| <b>Recommended dilution</b><br>1:100 dilution of 5% sodium hypochlorite is the usual recommendation. Use 1 part bleach to 99 parts cold tap water (1:100 dilution) for disinfection of surfaces.<br><i>Adjust ratio of bleach to water as needed to achieve appropriate concentration of sodium hypochlorite. For example, for bleach preparations containing 2.5% sodium hypochlorite, use twice as much bleach (i.e. 2 parts bleach to 98 parts water).</i> |
| <b>Available chlorine after dilution</b><br>For bleach preparations containing 5% sodium hypochlorite, a 1:100 dilution will yield 0.05% or 500 ppm available chlorine.<br><i>Bleach solutions containing other concentrations of sodium hypochlorite will contain different amounts of available chlorine when diluted.</i>  |
| <b>Contact times for different uses</b><br>Disinfection by wiping of nonporous surfaces: a contact time of $\geq 10$ minutes is recommended.<br>Disinfection by immersion of items: a contact time of 30 minutes is recommended.<br><i>N.B. Surfaces must be cleaned of organic materials, such as secretions, mucus, vomit, faeces, blood or other body fluids before disinfection or immersion.</i>   |

ppm: parts per million

Reference links:

<https://apps.who.int/iris/bitstream/handle/10665/331638/WHO-2019-nCoV-Hotels-2020.1-eng.pdf>

<https://www.who.int/publications-detail/water-sanitation-hygiene-and-waste-management-for-covid-19>

[https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)

<https://www.cdc.gov/infectioncontrol/guidelines/disinfection/>

<https://ncdc.gov.in/WriteReadData/l892s/89168637271584172711.pdf>

[https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-\(ncov\)-infection-is-suspected-20200125](https://www.who.int/publications-detail/infection-prevention-and-control-during-health-care-when-novel-coronavirus-(ncov)-infection-is-suspected-20200125)

[https://www.who.int/csr/bioriskreduction/infection\\_control/publication/en/](https://www.who.int/csr/bioriskreduction/infection_control/publication/en/)



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