



Information about cleaning and disinfection for health and residential care facilities

2 December 2020

The Infection Control Expert Group (ICEG) has developed this advice about cleaning and disinfection for health and residential care facilities. The Australian Health Protection Principal Committee also endorses this advice.

For advice on infection prevention and control during the COVID-19 pandemic, see the [Department of Health](#) website.

It is important to clean before disinfecting as dirt and grime can affect how well a disinfectant works. Here, cleaning means using a detergent and warm water to remove organic matter, allowing the disinfectant to work. Disinfection is using chemicals to kill germs. Removing germs, such as SARS-CoV-2 (the virus that causes COVID-19), requires thorough cleaning, followed by disinfection.¹

For a disinfectant to work, it must be made and used in line with the manufacturer's instructions.

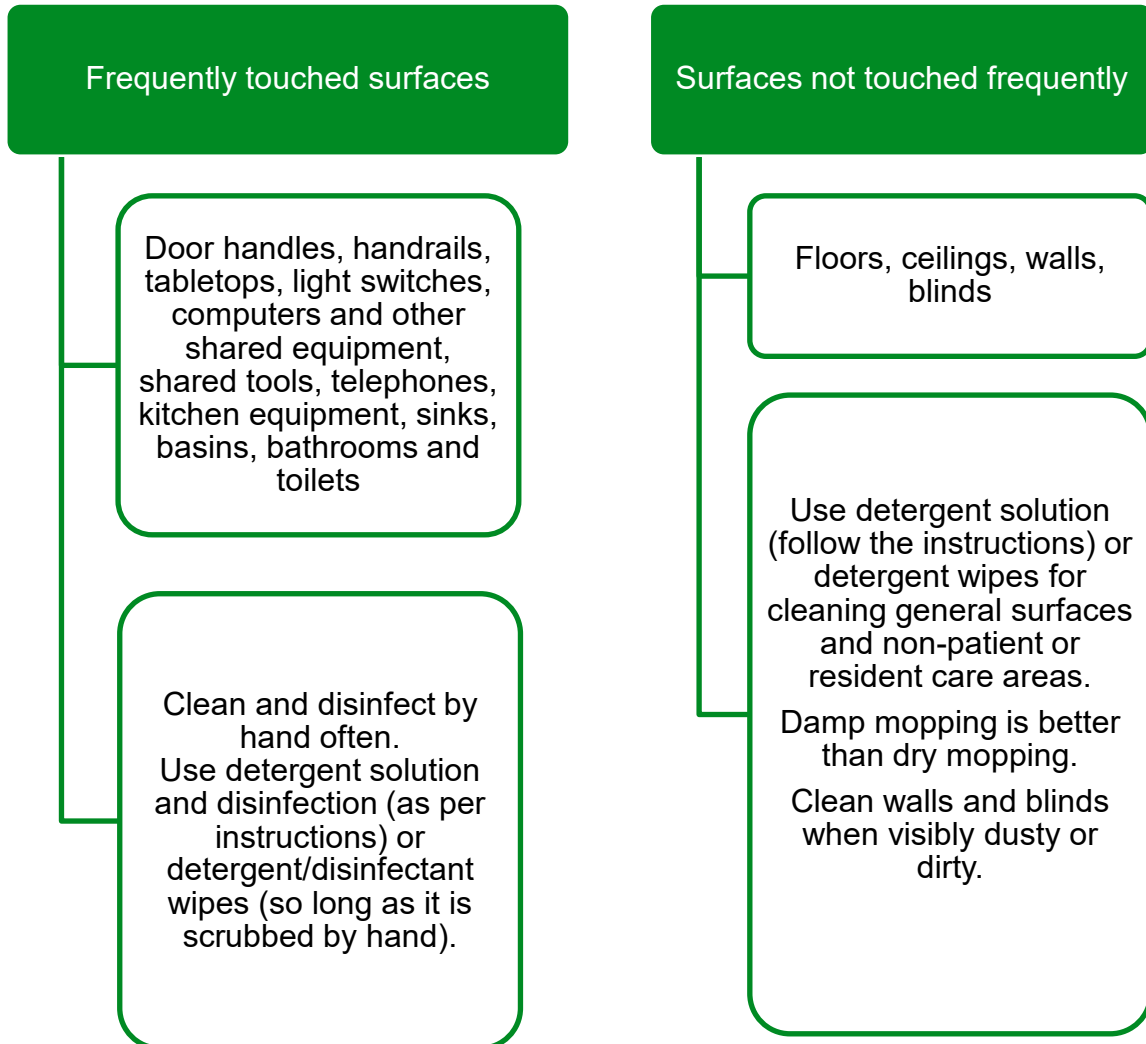
Coronaviruses like COVID-19 can survive on surfaces for many hours, but cleaning and disinfection will kill them. How long the virus survives on surfaces varies. The amount of contaminated body fluid (for example respiratory droplets), the type of surface, the temperature and the humidity all affect how long the virus survives.

As well as regular cleaning schedules, during COVID-19 clean and disinfect surfaces as follows:

- Clean often touched surfaces with detergent solution or detergent/disinfectant wipes (see Figure 1).
- Clean general surfaces and fittings straight away when visibly dirty and after spills.

¹ A list of disinfectants for use against COVID-19 is available on the TGA website.

Figure 1: Routine environmental cleaning²



COVID safe environmental cleaning

Health care settings

Primary and community care

This includes areas with no patients, rooms of residents who are well in residential care facilities (RCFs) and common areas

- Use a detergent/disinfectant solution/wipe to clean frequently touched surfaces at least daily or when visibly dirty.

² Adapted from Australian Guidelines for the Prevention and Control of Infection in Healthcare, Canberra: National Health and Medical Research Council (2019).

- Clean floors using a detergent solution.
- Vacuum carpets using a vacuum with a high-efficiency particulate air (HEPA) filter. Do not vacuum in a room or space that has people in it.

Patient areas

- Clean and disinfect frequently touched surfaces, such as door handles, light switches, and railings, with detergent and disinfectant wipe/solution. Do this between each episode of patient care (according to normal infection prevention and control practice).
- Take care to clean/disinfect surfaces in areas that have direct contact with patients, or where respiratory droplets may have landed.
- Manage how often inpatient areas should be cleaned, depending on local numbers of COVID-19 cases. This is really important in places such as emergency departments in areas where there is an outbreak of COVID-19.
- A terminal clean in an area that is heavily contaminated by a patient may be needed (see below).

Inpatient care

- Every day, clean and disinfect frequently touched surfaces with detergent and disinfectant wipe/solution.
- Increase how often you clean in inpatient care areas:
 - where patients with suspected or confirmed COVID-19 are cared for
 - that are visited by many patients (for example radiology, outpatients), where there is community transmission of COVID-19.
- Clean and disinfect all equipment after each use (as per normal infection prevention and control practice).
- Clean and disinfect surfaces that have been in direct contact with, or exposed to respiratory droplets, between each patient.
- Vacuum carpets using a vacuum with a HEPA filter. Do not vacuum in a room or space that has people in it.

Staff, public, and patient/resident support common areas

Common areas include (but are not limited to) staff dining rooms, cafes, retail outlets, staff meeting rooms and patient transport vehicles.

The risk of transmission of COVID-19 in these areas can be lowered with a good standard of general hygiene. This includes:

- Taking off PPE (except for face masks, face shields or eye protection) and performing hand hygiene before entering these areas.
- Promoting cough etiquette and respiratory hygiene.

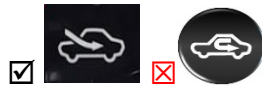
- Practising physical distancing (over 1.5 m apart).
- Routinely cleaning frequently touched hard surfaces with detergent/disinfectant solution/wipe.
- Providing enough alcohol-based hand sanitiser for staff, patients and the public to use. Alcohol-based hand sanitiser stations should be available, especially in areas where food is on display and often touched.
- Training staff how to use alcohol-based hand sanitiser properly.
- Using a mask, as required by local recommendations at any given time.

Cleaning

- Manage the frequency of cleaning in common areas, depending on the local number of COVID-19 cases.
- Also manage the frequency of cleaning in common areas used by staff who are caring for patients or residents with suspected or confirmed COVID-19. This includes areas of high intensity (for example COVID-19 wards, ICU, ED).

Transport

- Where possible, open vehicle windows and set the air-conditioning to fresh air.



- For patient transport services, use vehicles that clean well inside (for example vinyl, leather, plastic). Patient transport service vehicles include those that transfer patients between hospitals or where they live. For the purpose of this document, this doesn't include ambulances.

Disinfectant fogging

ICEG does not recommend disinfectant fogging for COVID-19. Disinfectant fogging (sometimes called misting) is when very fine droplets of disinfectant are sprayed in a room. This method may not kill the virus because not enough disinfectant is used. This type of disinfection can also cause chemical exposure to the operator and other people within the plume of the mist and requires training and PPE. Fogging also needs a long time to allow the droplets to settle onto surfaces before the room can be used again. Safe Work Australia provides information on cleaning to prevent the spread of COVID-19 on their [website](#).

Ultraviolet disinfection

ICEG does not recommend ultraviolet (UV) disinfection for COVID-19. Ultraviolet-C (UVC) radiation has been used in some settings but it doesn't have a role in disinfection to prevent infection transmission. We don't know enough about the

exposure, wavelength, dose, and duration of UVC radiation needed to kill the COVID-19 virus. This type of disinfection also requires training and PPE. UV disinfection may not disinfect surfaces enough which are in shadow from the UVC source. It can't be used in areas occupied by people because it can cause eye and skin irritation.

Hand hygiene

Use soap and water for hand hygiene at any time and **especially** when hands are visibly dirty. Use alcohol-based hand sanitiser as an alternative to soap and water, except when hands are visibly dirty.

Cleaning hands regularly also helps to reduce environmental contamination.

Information for cleaning staff of health and residential care facilities

- There is less risk of getting COVID-19 when performing environmental cleaning than when face-to-face with a sick person. This is because the sick person may be coughing, sneezing or producing respiratory droplets, by shouting for example.
- When cleaning rooms where patients with suspected or confirmed cases of COVID-19 have been treated, cleaners should:
 - Be told to avoid touching their face, especially their mouth, nose, and eyes when cleaning.
 - Be trained in the correct PPE to be worn when performing their duties and the correct way to put on and take off PPE.
 - Wear a full-length disposable gown, impermeable disposable gloves, a surgical mask, and eye protection or a face shield while cleaning. The surgical mask and eye protection act as barriers to people touching their face with contaminated hands and fingers by accident, whether gloved or not. Prescription glasses are not protective eyewear.
 - Perform hand hygiene, either using soap and water or an alcohol-based hand sanitiser, before putting on and taking off any PPE.

Use of disinfectant

- Following cleaning to remove any dirt and grime, use a disinfectant with antiviral activity (meaning it can kill the virus). Use disinfectants in line with the instructions to make sure it is left on the area for long enough.
- Provide Safety Data Sheets in all locations where the disinfectant is in use.
- The [Australian Register of Therapeutic Goods](#) lists products that have virucidal (able to kill the virus) claims.

- If using a freshly made bleach solution (sodium hypochlorite), follow the instructions for the correct dilution and use (see Appendix 1 for dilution instructions).
- Wipe the area with disinfectant solution using disposable paper towels or a disposable cloth.
- On completion of cleaning/disinfection, remove PPE in the correct order.
- Wash hands well using soap and water and dry with disposable paper or single-use cloth towel. Or use an alcohol-based hand sanitiser, unless hands are obviously dirty.

Terminal cleaning of rooms of patients/residents known to have COVID-19

Terminal cleaning of rooms of patients or residents who have COVID-19 requires both thorough cleaning and disinfection to remove the virus.

Prepare the room before cleaning. Remove medical equipment and personal items. Remove clutter and throw away disposable items and rubbish.

Follow or combine cleaning with a disinfectant process (see 2-step clean and 2-in-1 step clean below).

- Disposable cleaning equipment is preferred. However, if using reusable cleaning equipment, bag and send for laundering after each cleaning activity (for example after cleaning each patient room or shared common area). Disinfect metal items (like mop handles) after each use. Wear PPE – surgical mask, protective eyewear, gloves and gown.
- Remove bed screens, privacy curtains, and window curtains (if fitted), and send for laundering or dry cleaning. Throw away if they are disposable.
- Clean/disinfect all surfaces, furniture (including all surfaces of the bed and mattress) and fittings.
- Mop floor.
- Steam clean any soft furnishings.
- Remove PPE and perform hand hygiene.
- Replace any bed/privacy screens.
- In a separate area, put on fresh gloves and protective eyewear, then clean any reusable cleaning equipment (for example mop handles and all cleaning equipment). Return it to the cleaners' room or storage area, or throw away if the items are disposable.
- Remove gloves and other PPE and perform hand hygiene.

2-step clean

This is when cleaning is done with detergent followed by disinfection. Use a TGA-listed hospital-grade disinfectant with activity against viruses (according to the label and product information) or a bleach solution.

2-in-1 clean

This is when cleaning is done with a combined product. Use a detergent and TGA-listed hospital-grade disinfectant with activity against viruses (according to the label and product information) or a bleach solution, i.e. a combined detergent/disinfectant wipe or solution.

More information

For the latest advice, information and resources, go to www.health.gov.au

For more information about chlorine use in infection control, go to <https://www.cdc.gov/vhf/ebola/clinicians/non-us-healthcare-settings/chlorine-use.html>

For more information about safely using chlorine-based solutions, go to <https://www.cdc.gov/niosh/topics/chlorine/default.html>, <https://www.ag.ndsu.edu/flood/home/chlorine-bleach-safety>, and <https://www.ccohs.ca/oshanswers/chemicals/bleach.html>

Call the National Coronavirus Health Information Line on 1800 020 080. It operates 24 hours a day, seven days a week. If you require translating or interpreting services, call 131 450.

The phone number of each state or territory public health agency is available at www.health.gov.au/state-territory-contacts

If you have concerns about your health, speak to a doctor.

References

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For information on the evidence and use of ATP bioluminescence

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Appendix 1

Preparing chlorine-based disinfectant solution

- Chlorine (bleach) can kill viruses but handling it can be hazardous for people if it's not handled correctly and not used as instructed.
- Use a safer alternative, where possible, and always follow the instructions.
- Know when and how to dilute it correctly (for example, always pour concentrate into the water, never the other way around).
- Work in a well ventilated area and wear personal protective equipment (see below).
- DO NOT use with any other products (for example, toilet bowl cleaners, acids including vinegar, or anything containing ammonia).

When preparing bleach solutions:

- Wear gloves when handling and preparing bleach solutions.
- Wear protective eye wear in case of splashing.
- Bleach solution should be:
 - made up daily
 - used mainly on hard, non-porous surfaces (it can damage materials and metals).
- Follow the instructions to make sure the solution has enough time to kill the virus. 10 minutes of contact time is required at a concentration of 0.01% or 1 minute for a concentration of 0.1%.

Household bleach comes in different strengths. The concentration of active ingredient —hypochlorous acid³ — is on the product label.

Table 1. Recipes to achieve a 1000 ppm (0.1%) bleach solution

Original strength of bleach		Disinfectant recipe		Volume in standard 10L bucket
%	Parts per million	Parts of bleach	Parts of water	
1	10,000	1	9	1000 mL
2	20,000	1	19	500 mL

³ Hypochlorous acid (HOCl) is a weak acid formed when chlorine (Cl) dissolves in water and dissociated to hypochlorite (ClO⁻) which is the oxidising disinfectant in bleach

Note that prediluted bleach solutions lose effect over time and when exposed to sunlight.

Original strength of bleach		Disinfectant recipe		Volume in standard 10L bucket
3	30,000	1	29	333 mL
4	40,000	1	39	250 mL
5	50,000	1	49	200 mL