

COVID-19 CLEANING & CLEANING EFFICACY

SARAH BAILEY



3 Loftus St, West Leederville WA 6007
sarah@qed.com.au



HOW EFFECTIVE IS YOUR CLEANING?

Many guidelines and industry documents are being published about cleaning in buildings during the COVID-19 pandemic.

You could be forgiven for thinking that cleaning a building to reduce the risk of COVID-19 is a complex process, but all of the guidelines from reliable sources can be condensed down to one sentence:

First, clean well with a detergent to remove dirt, then disinfect the surface to reduce the numbers of micro-organisms present.

That's it!

The vitally important thing to remember during this process is that you absolutely cannot disinfect a surface properly if it is not clean to start with, as the disinfectant will be less effective – the dirt neutralises the effect of the disinfectant.

The detergent action removes dirt from the surface, and along with the dirt it removes many of the microorganisms too, as these are often contained in the dirt.

Detergent can also help to inactivate some viruses by destroying their outer shell – the virus that causes COVID-19, called SARS-Cov-2 has a fatty outer coat, and detergents can start to break down those fats.

Once cleaned with detergent, rinsed or wiped and dried, then a disinfectant can be applied.

Appropriate disinfectants to use are alcohol wipes or an alcohol based disinfectant with 70-90% alcohol, a chlorine based compound such as bleach diluted according to the supplier directions (sodium hypochlorite, sodium dichloroisocyanurate or calcium hypochlorite), hydrogen peroxide, quaternary ammonium compounds or a phenolic disinfectant (WA Health).

Care should be taken to select a disinfectant that will not damage the surfaces to be disinfected. Also if a product makes a specific claim about being anti-viral, it MUST be listed with the TGA (Therapeutic Goods Administration) by law to make that claim, so be wary of any product that claims this but cannot be found on the TGA website.

The virus is spread by droplet infection – that is, sneezing or coughing, and by dirty hands. Extra attention should be given to areas that are touched regularly such as lift buttons, door handles – and especially to kitchen areas such as coffee machines, fridge handles, microwave buttons etc which can be overlooked.



FOGGING AS A QUICK FIX?

Fogging is not currently recommended by the World Health Organisation (WHO) as strategy for reducing SARS-CoV-2.

A new market has opened up recently in disinfectant fogging for commercial and domestic settings, but this area is flooded with new operators who are sometimes not open about which disinfectants they are using. Some even claim to be Department of Health trained and licenced, but this refers to their training and licencing as pest controllers, not to any specific training to carry out fogging as part of a COVID-19 control strategy.

While fogging is used effectively within hospitals, this is using chemicals such as hydrogen peroxide at high concentrations, and people cannot be present in the room while this takes place.

The effectiveness of domestic and commercial grade foggers is not yet known and as the reliance on fogging may lead to inadequate cleaning, we do not recommend it. Again, any product claiming to kill viruses must also be listed with the TGA for that purpose.

POST CLEANING TESTING

There are several methods available to determine if an area has been properly cleaned, from the very well established methods of the food and healthcare industry, to a whole suite of new and 'interesting' (and usually more expensive) methods that have appeared more recently.

QED can offer you and your tenant's peace of mind that a cleaning job has been completed to a satisfactory standard based on the very established combination of three methods, which we believe will properly demonstrate the effectiveness of the cleaning and disinfecting process:

1

Visual inspection – while not a sure fire way to determine if an area is properly clean from all dirt and contamination this is an essential part of inspection, as the presence of visible dirt and dust means that the area needs recleaning before any other testing is carried out.

2

ATP Testing – this is a very established method used in the food and healthcare industry to provide almost instant results as to whether a surface is clean or not. While ATP testing cannot pick up if a virus is present (viruses do not have ATP), the test picks up dirt, bacteria, fungi and other organic matter on a surface – and if this is still present, the surface is still dirty and virus may remain too.

3

Bacterial testing – this is the Gold Standard test of cleanliness of a surface, however results take around 3-4 days to be available after testing. This test detects the levels of general bacteria left on a surface after cleaning and disinfection. If the bacteria are reduced in number or gone from a surface, then this indicates it has been cleaned well and disinfectant applied well, so any virus should have been inactivated too.

WHY QED WILL PROBABLY NOT BE RECOMMENDING SURFACE TESTING FOR SARS-COV-2

There will soon be a test available that we can use to determine if SARS-CoV-2 is present on a surface or not, and we can offer this testing if you require it. However, we will not currently be recommending this as a test to determine if cleaning is effective for several reasons.

Firstly, the distribution and quantity of the virus around an area would not be known, unless you could document exactly every place that an infected person touched and may have contaminated. It is likely that only small areas would have virus present, and if these are missed during sampling, a falsely negative result would be obtained.

It is our belief it is far better to show that the area has been properly cleaned of all dirt and debris and disinfectant applied, as this will help remove all pathogens present, not just SARS-CoV-2.

Secondly, sampling of surfaces and the air for SARS-CoV-2 is not recommended by the WHO at present, as studies have shown that the virus is not always detected in air and surface samples even if an infected person has been present, also, even if virus is detected, this does not correlate with if it can cause infection or not.

Thirdly, the reagents used to carry out the test are the same ones that are used to carry out the test for a human that may have an infection, and we believe that these reagents are best used for that purpose right now, when much better and well proven tests of cleaning effectiveness are available.

WHAT TO DO AFTERWARDS...

Once you have invested in a deep clean, what next to preserve the pristine environment that you have created?

The most important thing to do is to remind staff using the area that a clean environment alone will not protect them – the most effective protection against COVID-19 is, and always will be, hand hygiene, not touching your face and cough etiquette.

It is easy to re-contaminate surfaces if hand hygiene practices are not followed. Ensure that soap and hand towels are available and are well stocked and accessible for all staff, along with handrub and posters on proper hand washing and hand rub technique.

Useful resources for these are available via the links below:

https://www.who.int/gpsc/5may/How_To_HandWash_Poster.pdf

https://www.who.int/gpsc/5may/How_To_HandRub_Poster.pdf



References:

Information about routine environmental cleaning and disinfection in the community, Australian Government <https://www.health.gov.au/sites/default/files/documents/2020/03/coronavirus-covid-19-information-about-routine-environmental-cleaning-and-disinfection-in-the-community.pdf> accessed April 2nd 2020

WA Health COVID-19 Environmental Cleaning for Workplaces (Non-Healthcare Settings) <https://ww2.health.wa.gov.au/~media/Files/Corporate/general%20documents/Infectious%20diseases/PDF/Coronavirus/COVID19-Environmental-Cleaning-for-workplaces.pdf> accessed April 2nd 2020

Guidance: COVID-19 Cleaning in non-healthcare settings. Public Health England <https://www.gov.uk/government/publications/covid-19-decontamination-in-non-healthcare-settings/covid-19-decontamination-in-non-healthcare-settings> accessed April 2nd 2020

Modes of Transmission of virus causing COVID-19: implications for IPC precautions recommendations. WHO 27th March 2020

TGA warning on coronavirus products <https://www.tga.gov.au/media-release/warning-about-products-claiming-treat-or-prevent-novel-coronavirus> Accessed April 2nd 2020

Casini et al (2018) Evaluation of the cleaning procedure efficacy in prevention of nosocomial infections in healthcare facilities using cultural method associated with high sensitivity luminometer for ATP detection. Pathogens 2018 7, 71

Doll, M; Stevens, M and Bearman G (2018) Environmental cleaning and disinfection of patient areas. International Journal of Infectious Diseases **67 (2018)** 52-57

Ling et al (2015) APSIC Guidelines for environmental cleaning and decontamination. Antimicrobial Resistance and Infection Control **4:58**

ABOUT THE AUTHOR



Sarah Bailey MSc, PGDip Med Myc

Senior Consultant

☎ 1300 400 733

Sarah has years of experience in medical facilities where she specialised in microbiology and infection control, drawing on her postgraduate studies in medical microbiology. She leads QED's infection control practice which includes hospital air quality, mould investigations and legionella risk management.