



Facility Cleaning & Disinfecting:

Lessons from COVID-19

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Fast Facts –SARS-CoV-2/Coronavirus/COVID-19

Study Data on SAR-CoV-2

New England Journal of Medicine

- March 17, 2020

Remaining Viable on Surfaces:

- | | |
|-------------|-------------|
| ◦ Copper | 4 Hours |
| ◦ Cardboard | 24 Hours |
| ◦ Stainless | 72 Hours |
| ◦ Plastics | 72-96 Hours |

Routes of Transmission:

Respiratory Droplets

Aerosolized* – under strong debate

Contact Surfaces

*Trend is moving towards person-person transmission is primary vs. contact surface (fomite transmission)

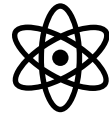
How Easily to Deactivate SARS-CoV-2 Virus?

NCBI

(The National Center for Biotechnology Information)

EPA N List of Disinfectants

SARS-CoV-2 can be inactivated quite easily with many commonly used disinfectants



Same family as Coronavirus (colds/respiratory diseases) and therefore same virus envelope structure.



TIME is a valuable deactivator of the virus –if feasible, limiting access to impacted areas for virus die-off prevents spread.

Strong recommendation –use EPA N list disinfectants in your facilities for liability reasons!



How to
respond in
your facility

HVAC Operation

EPA and ASHRAE recommendations For Schools/Office Facilities (vs. Medical):

- Increase MERV filter ratings
- Confirm there are no leaks around filter racks
- Change filters regularly and ensure condensate pans are draining
- No specific special cleaning recommendation based on COVID-19
- Disable demand-controlled ventilation (DCV)
- Further open minimum outdoor air dampers, as high as 100%, thus eliminating recirculation
- Keep systems running longer hours, if possible 24/7
- Purge system two hours before and after people are entering and have left the building

Be cautious of retrofitting equipment!



HVAC Operation During COVID-19

No evidence to date that suggests SARS-CoV-2 will impact ventilation in non-medical setting.

Ventilation will be key to room level safety for occupants

EPA Guidance:

- DO NOT use Ozone machines
- DO NOT RELY on room air purifiers to combat COVID19



Two Primary Methods to Mitigate Virus or Flu Outbreak

- Control the Facility (Closing or Sanitizing)
- Control the People (Isolate, Hand Washing, Distancing, Masks)

[managing the facility is the constant
controllable risk]



CLEAN + DISINFECT = EFFECTIVE PROCESS



CLEANING – removes germs, dirt & impurities from surfaces

DISINFECTING – kills germs on surfaces

COMBINED – CLEANING (SOAP & WATER) REMOVES VIRUS/BIOLOAD AND ALLOWS INCREASED EFFICACY OF DISINFECTANT.

What Surfaces are High Touch?

(CDC Website Provides Guidance)

Main Entrance Door (inside AND outside)
High Traffic Door Handles
Desks/tables in work areas
Fixture Faucets (Consider limiting bathrooms)
Break Room Appliances
Chair Arms (office/break rooms)
Drinking Fountain Triggers
Light Switches
Playground Equipment/Toys/Sport Toys

Computer Keyboards/Mouse ←
Phones ←

What are NOT typically high touch:

Ceiling
Walls (possibly below 6' if childcare area)
Floors (unless floor activities/crawlers)
HVAC

Audit Your Facilities High Touch Surfaces

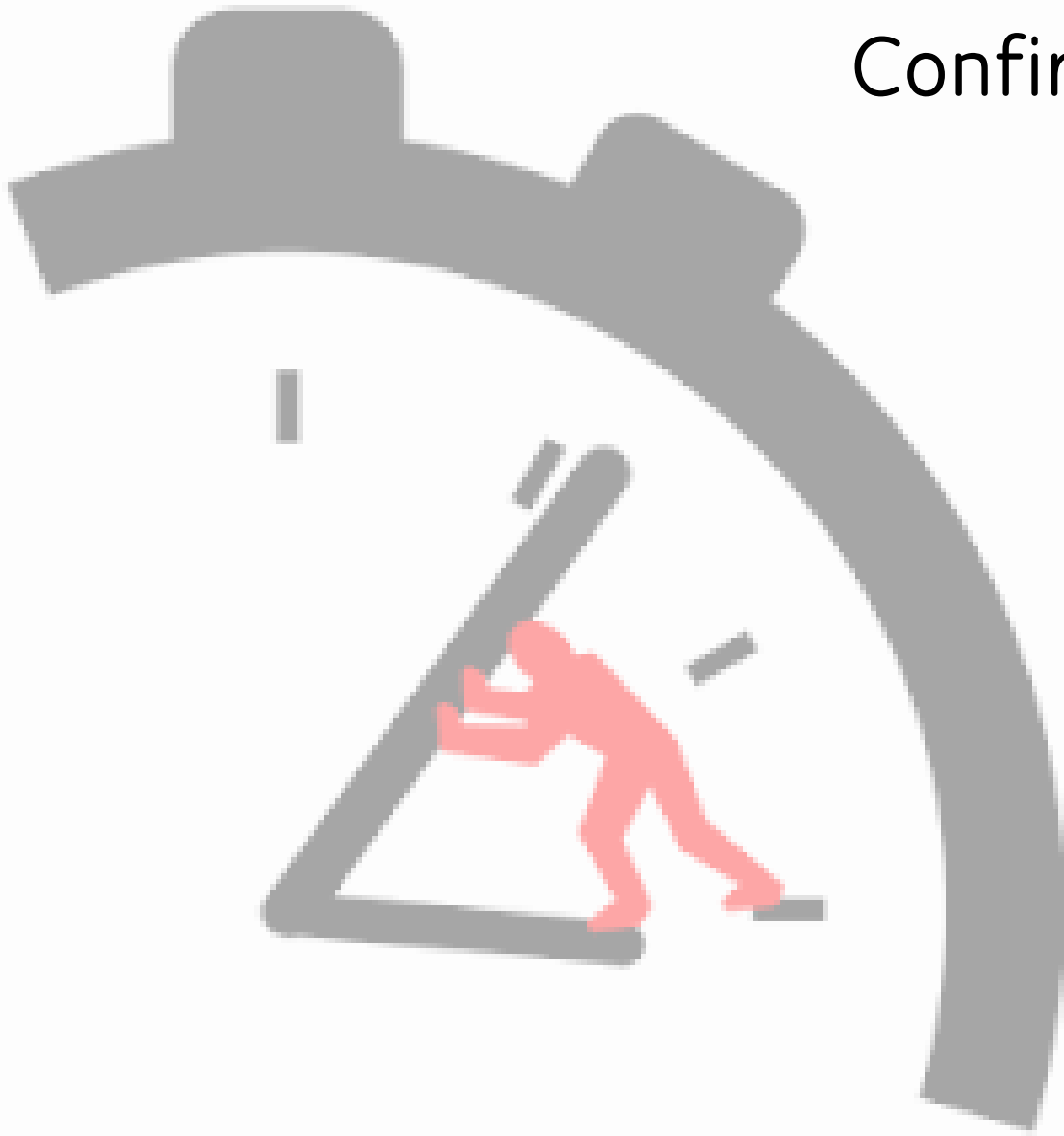


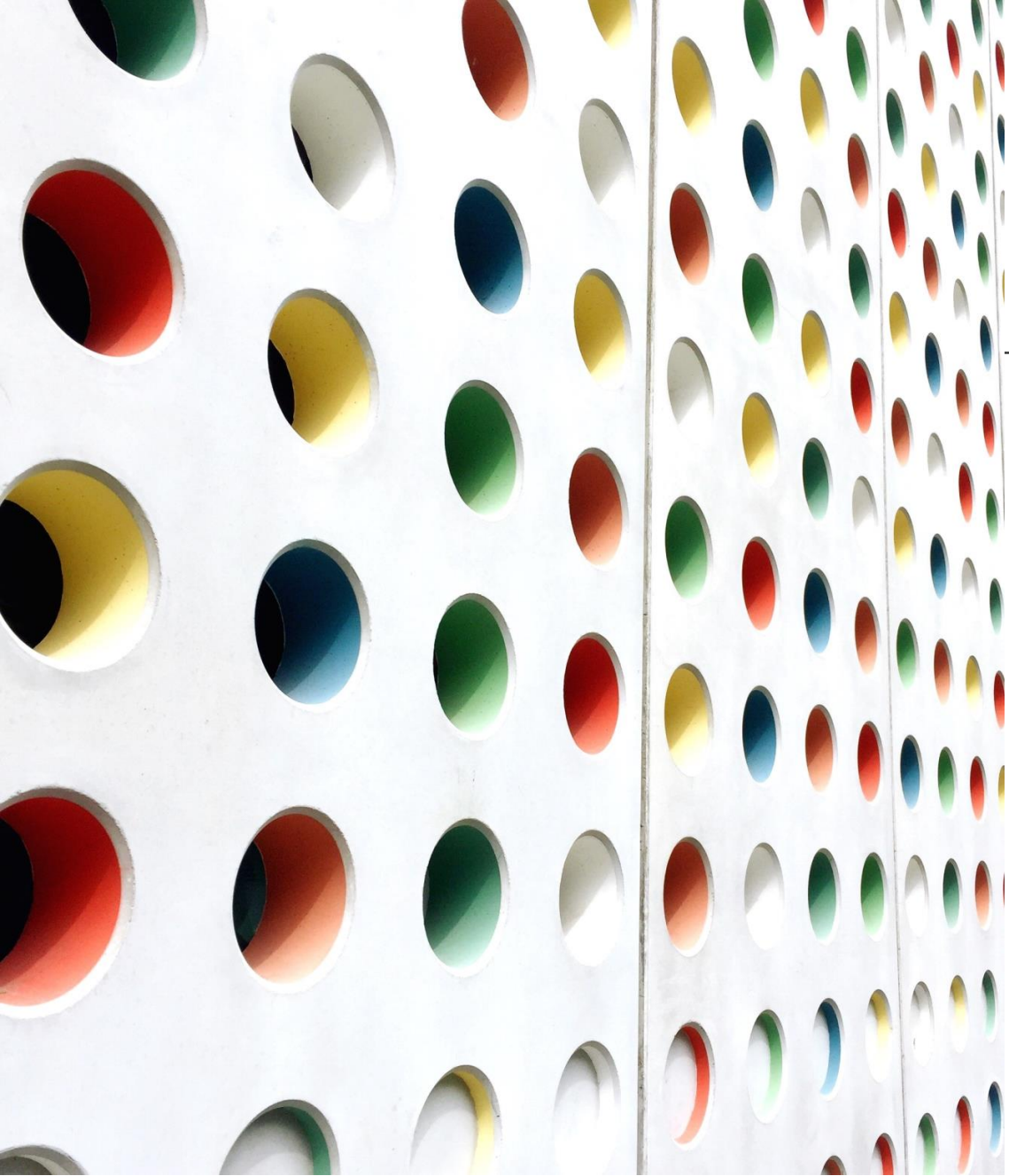
Confirmed or Suspected COVID-19 Case In Facility

CDC recommends:

- Close off area for 24 Hours or as long as feasible
- Ventilate/circulate Air
- Clean & Disinfect

After time lapse or in non-impacted areas: regular maintenance cleaning can occur.





Cleaning & Disinfecting Process

Office/Educational Buildings Are Not Medical Facilities...

Years of Bio-loading on Surfaces

This can reduce the effectiveness of disinfectant by:

- Protecting the germs/virus through physical barrier
- “chews” through disinfectant before it can be effective
- Residue from disinfectant can leave sticky surface to accumulate

Medical facilities do not allow bio load to accumulate through process of ongoing sanitizing

This means your outbreak targeted efforts may not be as effective as you expect

Gold Star Method



Step 1: Elbow grease and general soap/water to remove bio-load
(no repeat use of cleaning pad!)

Step 2: Correct disinfectant with correct contact time

Step 3: Clean damp cloth to wipe disinfectant

Sound Familiar??



Washing hands with soap and water is the best way to get rid of germs in most situations.

Sanitizers can quickly reduce the number of germs on hands in many situations. However,

- Sanitizers do **not** get rid of all types of germs.
- Hand sanitizers may not be as effective when hands are visibly dirty or greasy.

The Smear

No pre -cleaning

Spraying/applying disinfectant

Wiping off with multi-use rag or towel

- Accumulates bio-loading and smears to the next location
- Disinfectant product becomes less and less effective



The Overdose

No pre -cleaning

Spraying/fogging disinfectant

- Bio load never removed
- Residual disinfectant leaves residue which can accumulate more bio load
- Product can damage/corrode facility materials



* Fogging/Wide-Area Spraying Not Recommended by the EPA

How do You Know if Your Process Works?

[Click here to view video](#)



Confidence in the Process

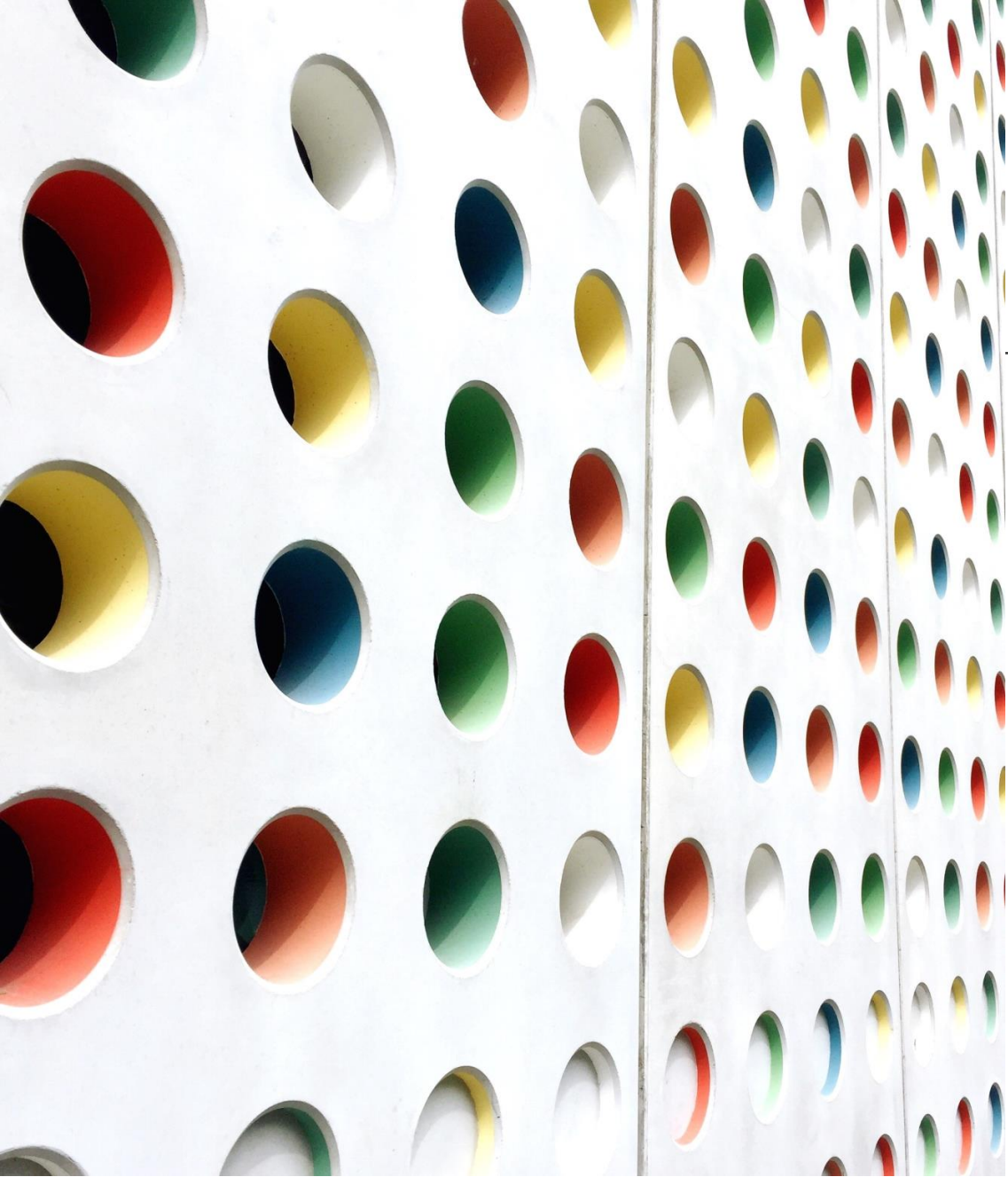
Ensure Confidence through 3rd Party testing:

- Surface testing pre/post to document successful methods
 - Documentation for stakeholders/administration on what cannot be seen visually
- *common practice in healthcare and recommended by AIHA

ATP Swab Sampling -Utilized in infection control/Operating Rooms

Provides verification that bio-loading has been removed, surface is sanitized, therefore minimized risk of spreading infection





Emerging Challenges: Unintentional Impacts

Product Use

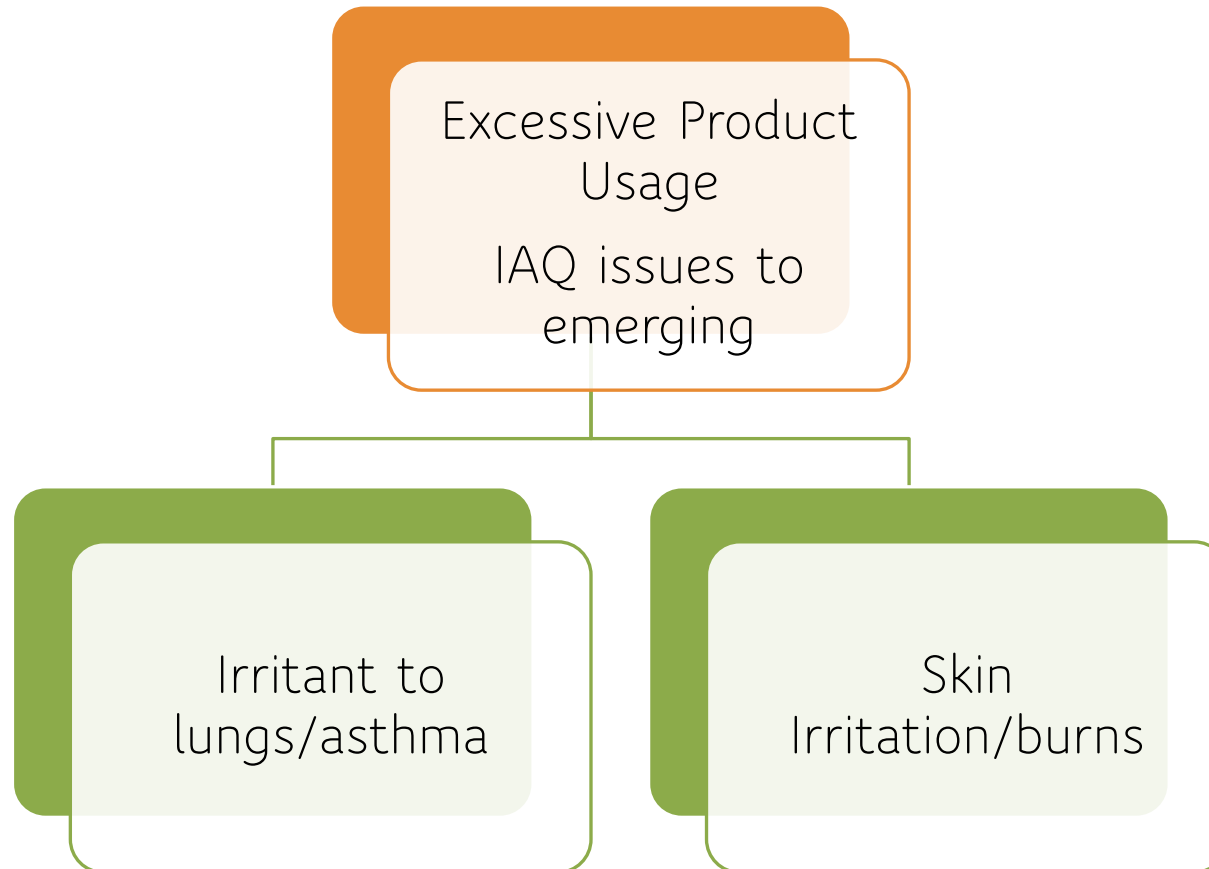


Amount of Product Use -\$\$\$

- Focus More on people and Less on facility disinfecting

Availability of Products -manufacturers challenges

Non-COVID-19 Exposure Issues Building Occupants



Non-COVID-19 Exposure Issues Building Staff

Worker Safety Concerns –not trained on chemicals

- If hazard added to job duty –require ERK training
- Used to chemicals –but “crisis brain” kicks in trained brain not used!
- Improper use of chemicals –burns/hives/lung/respiratory issues starting to occur
- Well-intentioned overuse of chemical mindset that “More is Better”
- OSHA calls are increasing

Primary focus of facility managers in time of crisis should be:



- Know the reliable facts (MDH, CDC, John Hopkins sources)
- Make sure approach to sanitizing facility is effective, functional and economical to minimize risk of infection spread
- Utilize your resources that have your best interest in mind; do your due diligence
- Document wherever you can for confidence in your facility processes and trainings



Thank you & STAY SAFE!



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