The SARS-CoV-2 (Coronavirus) and COVID-19 Disease

Understanding risk, impact and how to address the situation

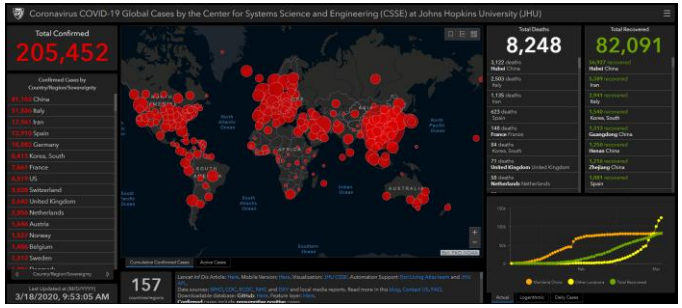
March 2020

Overview of the outbreak

- Outbreak of a novel coronavirus originated in Nov/Dec 2019 in Wuhan China
- Identified as a coronavirus (CoV); named SARS-CoV-2 with the associated disease being called COVID-19.
- 80%+ genetically similar to the SARS-CoV
- As of March 19:
  - more than 256,000 people have been infected globally
  - with ~10,500 deaths (~4% mortality).
  - ~40% of cases occurred in China
  - 183 countries have cases of infected people.

https://www.worldometers.info/coronavirus/#countries

Johns Hopkins outbreak case tracking map can be viewed HERE



Coronaviruses

- Coronaviruses (CoV) are a broad family of viruses named after the crown-like spikes on their surface.
- CoV typically cause mild to moderate upper respiratory tract disease in humans, but can also cause more severe infections such as pneumonia.
  - Mild illness caused by CoV includes the common cold and influenza-like illness.
  - Severe illness caused by CoV includes Severe Acute Respiratory Syndrome (SARS), Middle East Respiratory Syndrome (MERS), and certain pneumonias.
- There are some coronaviruses that can be transmitted from animals to people
- The virus was initially identified as 2019-nCoV because it is novel or new

Diagnosis & symptoms of infection

The incubation period is 1-14 days, but can be longer in rare cases. People are most contagious when showing symptoms.

SYMPTOMS

- High fever (over 101F or 38.3C)
- Cough
- Breathing difficulties

- Diagnosis and treatment of CoVID-19 should only be performed by a trained physician who can rule out other potential diseases.
- Of those infected, ~80% have had mild symptoms, which may resemble influenza-like illness.
- 10-20% of those infected have developed pneumonia, many requiring hospitalization and ~4% have died from the disease.

Method of transmission

- SARS-CoV-2 was likely transmitted from bats to other animal(s) to people.

Bats and game animals → Visiting seafood market, contact with live or dead animals → People handling the animals or exposed to their secretions

- How SARS-CoV-2 spreads from person to person?

Person to person transmission

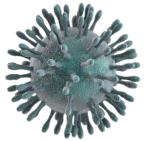
By droplets

Made when infected people cough, sneeze or talk

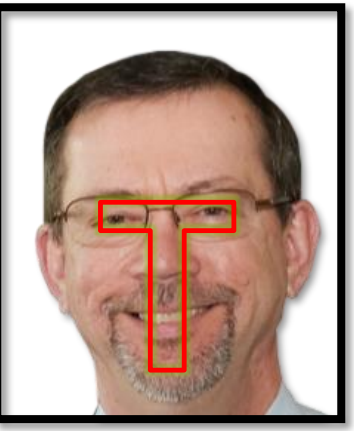
Touching

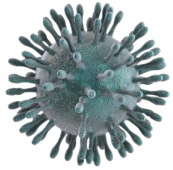
Contaminated objects or surfaces

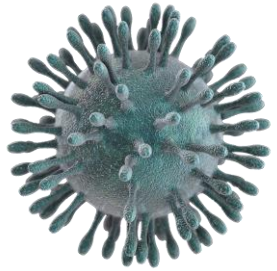
SARS CoV 2



- Enveloped virus, spread by contact and droplet
- Contact: surfaces soiled with respiratory secretions
  - Desks, door handles, hands, cafeteria tables, computers, etc.
- Droplet:
  - large droplets propelled during coughing or sneezing that contact our mucous membranes (eyes, nose, mouth…or the ‘T’ Zone)








dumbfriendsleague
It's for your own good. You have to stop touching your face.

Coronaviruses on surfaces

- If contaminated bioaerosol droplets settle onto surfaces, people may touch the surfaces and contaminate their hands and then touch their eyes/mouth/nose, resulting in infection.
- Recent literature review suggesting coronaviruses may survive hours and most likely up to 5 days on environmental surfaces (Kampf, 2020).

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Person to person transmission risk

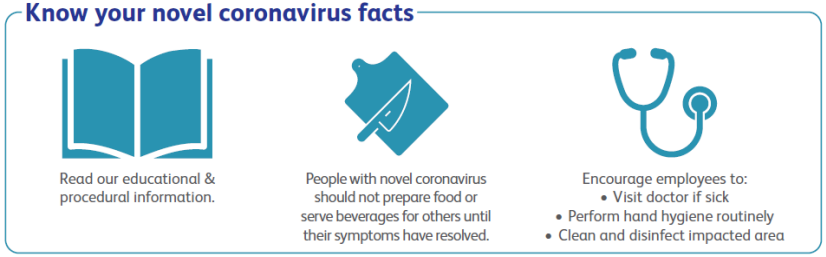
- When person to person transmission occurs, it is most likely where there is close personal contact with a person that is visibly sick.
- Casual contact in the public with an infected person is unlikely to result in transmission unless contact with contaminated body fluids occurs, examples:
  - Coughing
  - Sneezing
- Both SARS and MERS are spread by droplet transmission.

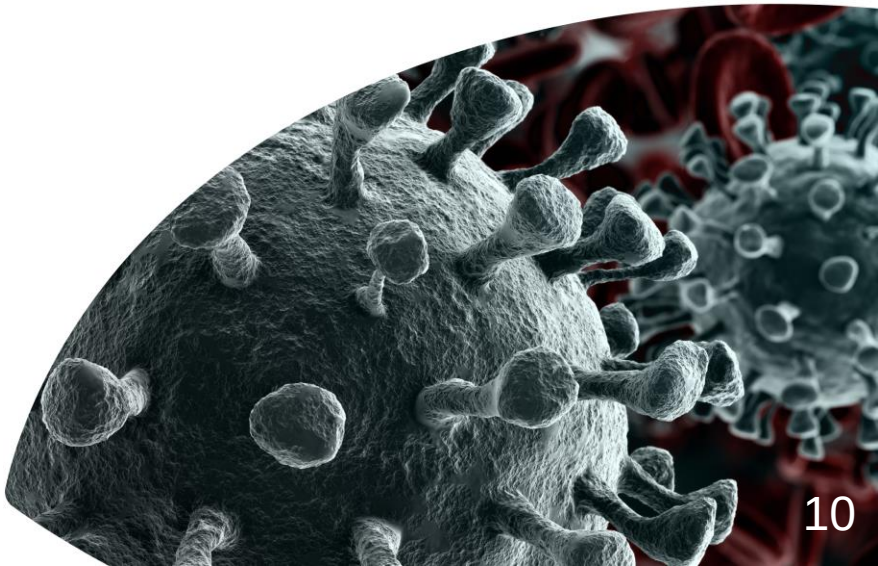
Note to healthcare workers:

- *When the method of transmission for a pathogen is not well understood, the WHO and US-CDC recommend additional caution for healthcare workers when in close contact or when treating symptomatic patients.*

Best practices to reduce infection risk

- Monitor official channels for health information (e.g. WHO, CDC, PHAC).
- Observe good infection prevention practices, especially in public buildings.
- People who are sick with symptoms of COVID-19 or other influenza-like illness should wear masks in public to protect others if they have to go outside.

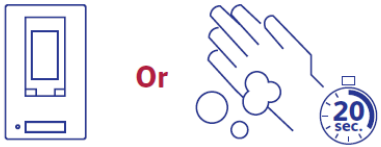




Prevention practices for the general public

Prevention

- Observe good infection prevention practices to minimise risk when handling, housing and transferring animals
- Minimise direct or prolonged contact with sick people and animals
- Wear protective clothing when in contact with animals and infected people
- CoV are easily killed on environmental surfaces so disinfect frequently touched surfaces often using a healthcare grade disinfectant such as Oxivir



Sanitize hands using alcohol based hand rub

Use alcohol hand rub unless hands are visibly soiled.

Or

Frequent handwashing

Wash hands with soap and water for at least 20 seconds.

Cover your mouth and nose

With a tissue or sleeve when coughing, sneezing and preparing & cooking food.

Avoid close contact

With anyone showing symptoms of respiratory illness.

Find an ally in 0.5% Hydrogen Peroxide disinfectants:

Cleaning and disinfection of environmental surfaces in public buildings can help reduce the risk of transmission of SARS-CoV-2 and other pathogens that can cause disease. Kampf (2020) states that 1000 ppm chlorine or 0.5% hydrogen peroxide have been shown to be effective against coronaviruses.

Editorial Credit: Jeremiah Benjamin Yong / Shutterstock.com

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Soft Care™ Hand hygiene

How to wash your hands

1

Wet hands with water

2

Apply enough soap to cover all hand surfaces

3

Rub hands palm to palm

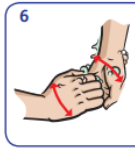
4

Right palm over left dorsum with interlaced fingers and vice versa

5

Rub palm to palm with fingers interlaced

6



Backs of fingers to opposing palms with fingers interlocked

7

Rotational rubbing of left thumb clasped in right palm and vice versa

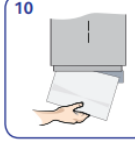
8

Rotational rubbing, backwards and forwards with clasped fingers of right hand in left palm and vice versa

9

Rinse hands with water

10



Dry hands thoroughly with a single use towel

11

Use towel to turn off faucet

12

Your hands are now safe

diversey.com

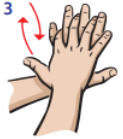
- Min. 60% alcohol
- 20-30 seconds wet time

Soft Care™ Hand hygiene

How to apply hand rub

1 
Apply enough hand rub to cover all hand surfaces.

2 
Rub hands palm to palm.

3 
Right palm over back of left hand with fingers interlaced. Do the same again with right hand over left.

4 
Palm to palm with fingers interlaced.

5 
Backs of fingers to opposing palms with fingers interlocked.

6 
Rotational rubbing of left thumb clasped in right palm and vice versa.

7 
Fingers of right hand in left palm rubbing clockwise, then anti-clockwise. Do the same again with the left hand in right.

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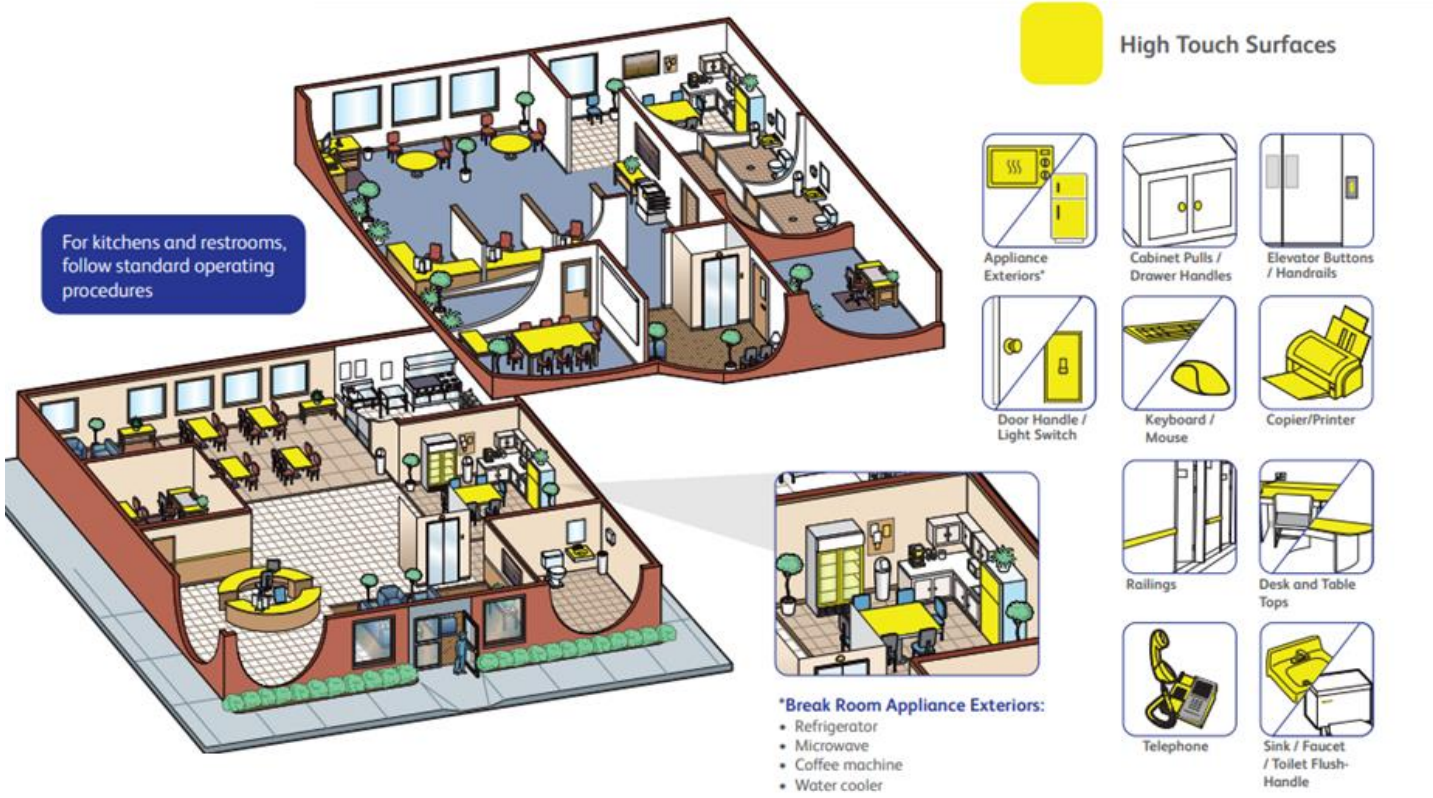
Building Care



How geographic areas are categorized:

There is only travel or area designation by the CDC by country and area.

Watch - Level 1, Practice Usual Precautions

Alert - Level 2, Practice Enhanced Precautions

Warning - Level 3, Avoid Nonessential Travel

Source: CDC

How building areas are categorized:

Level 1 - Standard daily cleaning with usual and maybe enhanced in high touch areas.

Level 2 - Suspected case on premise - step up clean and frequency relative to traffic and shared areas.

Level 3 - Confirmed case and they should follow contact precautions, clean with proper covering and PPE, extra thorough. Some companies are waiting 24 hours to allow air to circulate, pending type of business / facility and airflow. At least 30 minutes.

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

At a school, daycare center, office, or other facility that does not house people overnight:

- It is recommended to **close off areas used by the ill persons and wait as long as practical before beginning cleaning and disinfection** to minimize potential for exposure to respiratory droplets. **Open outside doors and windows to increase air circulation in the area.** If possible, wait up to 24 hours before beginning cleaning and disinfection.
- **Cleaning staff should clean and disinfect all areas (e.g., offices, bathrooms, and common areas) used by the ill persons**, focusing especially on frequently touched surfaces**.**

Source: CDC

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

SPECIAL INSTRUCTIONS:

- Make sure the room is well ventilated and has been idle for some time. 30 minutes to 24 hours (optimum) to ensure proper air flow
- Ensure cleaners are using an EPA-approved disinfectant that is effective against the virus, meets the dwell time, and is non-irritating to users and assets
- Highlight the importance of a thorough or deep clean, and high-touch surfaces that should have special attention
- At this time, gown and gloves are recommended, but other PPE (beyond SDS) is not required for cleaning these areas

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

DISINFECTION KEYS TO KNOW:

- Make sure product is EPA-approved for pathogens of concern
- Use a product that is safe for staff and surfaces, pleasant
- Use a product with a realistic dwell time (one and done)
- Make sure procedures are solid and consistent:
  - Clean visible soils first
  - High to low
  - Clockwise or counter

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

At a facility that does house people overnight:
Follow Interim Guidance for US Institutions of Higher Education on working with state and local health officials to isolate ill persons and provide temporary housing as needed.
It is recommended to **close off areas** used by the ill persons and wait as long as practical before beginning cleaning and disinfection to **minimize potential for exposure to respiratory droplets.** Open outside doors and windows to increase air circulation in the area. If possible, wait **up to 24 hours** before beginning cleaning and disinfection.

Source: https://www.cdc.gov/coronavirus/2019-ncov/community/organizations/cleaning-disinfection.html

Cleaning and Disinfection After Persons Suspected/Confirmed to Have COVID-19 Have Been in the Facility

In areas where ill **persons are being housed in isolation**, follow Interim Guidance for Environmental Cleaning and Disinfection for U.S. Households with Suspected or Confirmed Coronavirus Disease 2019. This includes focusing on cleaning and disinfecting common areas where staff/others providing services may come into contact with ill persons, but reducing cleaning and disinfection of bedrooms/bathrooms used by ill persons to as needed.

In areas where ill persons have visited or used, continue routine cleaning and disinfection as in this guidance.

Source: https://www.cdc.gov/coronavirus/2019-ncov/prepare/cleaning-disinfection.html?CDC_AA_refVal=https%3A%2F%2Fwww.cdc.gov%2Fcoronavirus%2F2019-ncov%2Fcommunity%2Fhome%2Fcleaning-disinfection.html

Disinfectant Recommendations

- Coronavirus disease 2019 (COVID-19), caused by Severe Acute Respiratory Syndrome Coronavirus 2 (SARS-CoV-2), formerly called nCoV-19
- **EPA Approved list:**

https://www.epa.gov/pesticide-registration/list-n-disinfectants-use-against-sars-cov-2

Make sure you reference the EPA registration number as some products have different names under the same registration.

Pesticide Registration

List N: Disinfectants for Use Against SARS-CoV-2

List N includes products that meet EPA's criteria for use against SARS-CoV-2, the cause of COVID-19.

When purchasing a product, check if its **EPA registration number** is included on this list. If it is, you have a match and the product can be used against SARS-CoV-2. You can find this number on the product label – just look for the EPA Reg. No. These products may be marketed and sold under different brand names, but if they have the same EPA registration number, they are the same product.

- Frequently Asked Questions about List N: Disinfectants for Use Against SARS-CoV-2
- Emerging Viral Pathogen Claims for SARS-CoV-2: Submission Information for Registrants

Note: Inclusion on this list does not constitute an endorsement by EPA. There may be additional disinfectants that meet the criteria for use against SARS-CoV-2. EPA will update this list with additional products as needed.

List N was last updated on March 13, 2020.

Other COVID-19 Resources

- EPA's Coronavirus Site
- CDC's Coronavirus Disease 2019 Site
- CDC's Cleaning and Disinfection Recommendations for COVID-19
- NPIC 's COVID-19 Virus Factsheet

Show 25 entries PDF

Search: 70627-77

List N: Products with Emerging Viral Pathogens AND Human Coronavirus claims for use against SARS-CoV-2

EPA Registration Number	Active Ingredient/s	Product Name	Company	Follow the disinfection directions and preparation for the following virus	Contact time (time surface should remain wet)	Formulation Type	Emerging Viral Pathogen Claim?	Date Added to List N
70627-77	Hydrogen Peroxide	Oxivir 1 Wipes	Diversey, Inc.	Enterovirus Type D68	1 minute	WIPE	Y	03/03/2020

Prevention practices for public facilities

- Outbreaks should generally not change ongoing infection prevention practices for staff. Frequency of practices may increase, but the practices should not need to change.
- Increase access to hand hygiene, disinfectant wipes, and facial tissues can help reduce the risk of infection and provide visual commitment to public safety.
- Consider additional infection prevention practices in transportation vehicles in order to minimize the higher risk for infected people being in close contact with others.
- Packages coming from China are low risk as the virus is unlikely to survive shipment.

Safe Buildings Program

In all areas that you clean and sanitize, pay attention to standard operating procedures, using recommended products only.

Specific attention should be paid to hand hygiene and frequently-touched hard surfaces to avoid cross-contamination.

Cleaning and sanitation will reduce the risk of an outbreak.

1. Maintain excellent hand hygiene
2. Use a disinfectant for targeted disinfection of frequently touched surfaces
3. Deal with blood or other bodily fluid spillages immediately

High risk areas

High risk infection areas need to be cleaned on a regular basis.

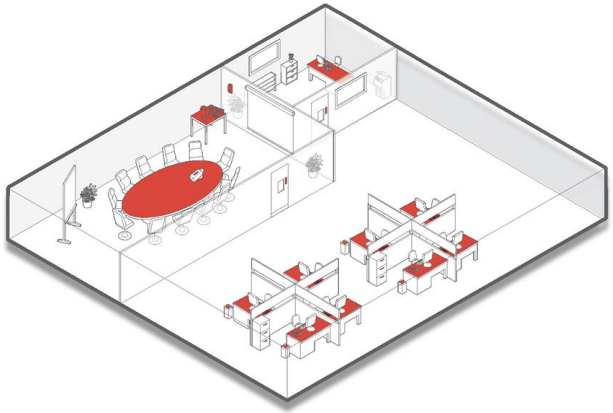
These include areas where traffic is high, bodily spills are frequent or where there is general low level of hygiene.

Employers

- Policies for worker protection and provide training to all cleaning staff on site prior to providing cleaning tasks. Training should include:
    - when to use PPE,
    - what PPE is necessary,
    - how to properly don (put on), use, and doff (take off) PPE,
    - how to properly dispose of PPE.
- Workers are trained on the hazards of the cleaning chemicals used in the workplace in accordance with OSHA's Hazard Communication standard (29 CFR 1910.1200external icon).
- Must comply with OSHA's standards on Bloodborne Pathogens (29 CFR 1910.1030external icon), including proper disposal of regulated waste, and PPE (29 CFR 1910.132).

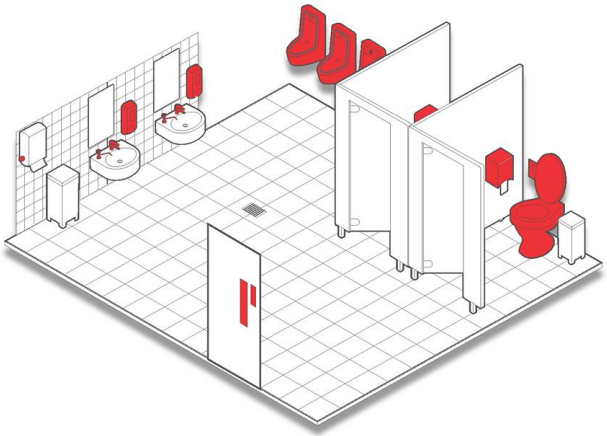
Safe Buildings Program

Key touch points



Offices:

- telephones
- desks
- switches
- door handles



Washrooms:

- door handles
- switches
- dispensers (loaded, in good order, clean)
- bathroom handles, toilet flush, shower control, taps
- toilet seats, splash walls

Prevention practices for healthcare staff

- Observe standard, contact and droplet precautions.

Use proper personal protective equipment including gloves, gowns, eye protection and masks and where needed, N-95 respirators (or equivalent).

Frequent cleaning and disinfection of environmental surfaces and patient care equipment.

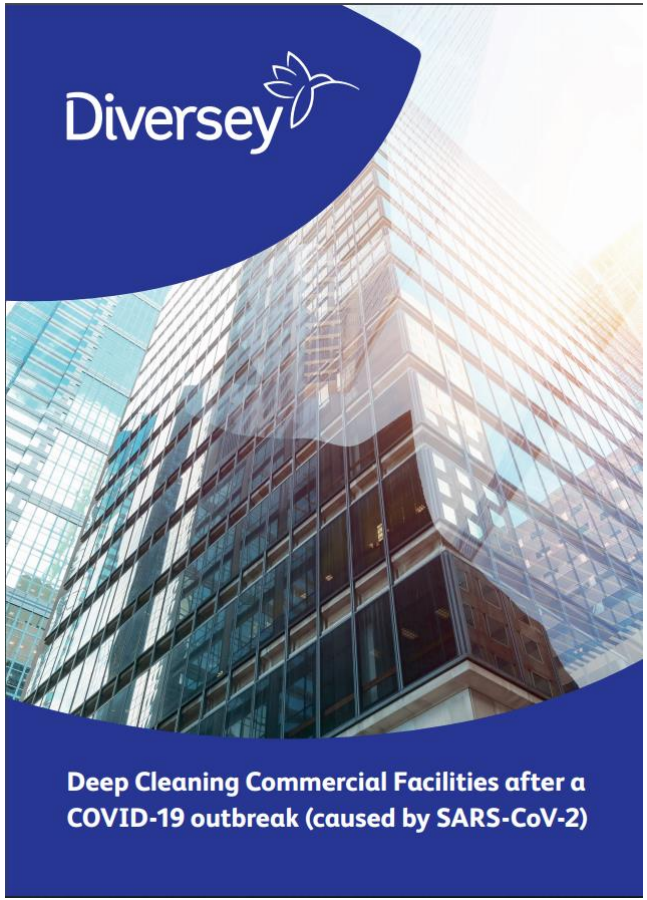
Frequent hand hygiene using the WHO 5 Moments of hand hygiene model.

- Staff should be prepared to identify and isolate people that may be carrying the SARS-CoV-2 (coronavirus).
- Fabrics that may be soiled from contact with infected patients should be handled with minimal agitation and laundered using recommended laundering practices
- Follow good respiratory hygiene practices.

Safe Buildings Program
The future “NEW NORMAL”

- No one should come to work sick – your staff, your clients.
- Use effective cleaner / disinfectants all the time
- Make sure you have adequate inventory for pandemic supplies
  - Expiry - Stock rotation
- Keep your employees trained on best practices and outbreak preparedness
- Where we used to sanitize, do we need to disinfect?
- Use your manufacturers to recommend best products / practices for the optimal environment

Tools



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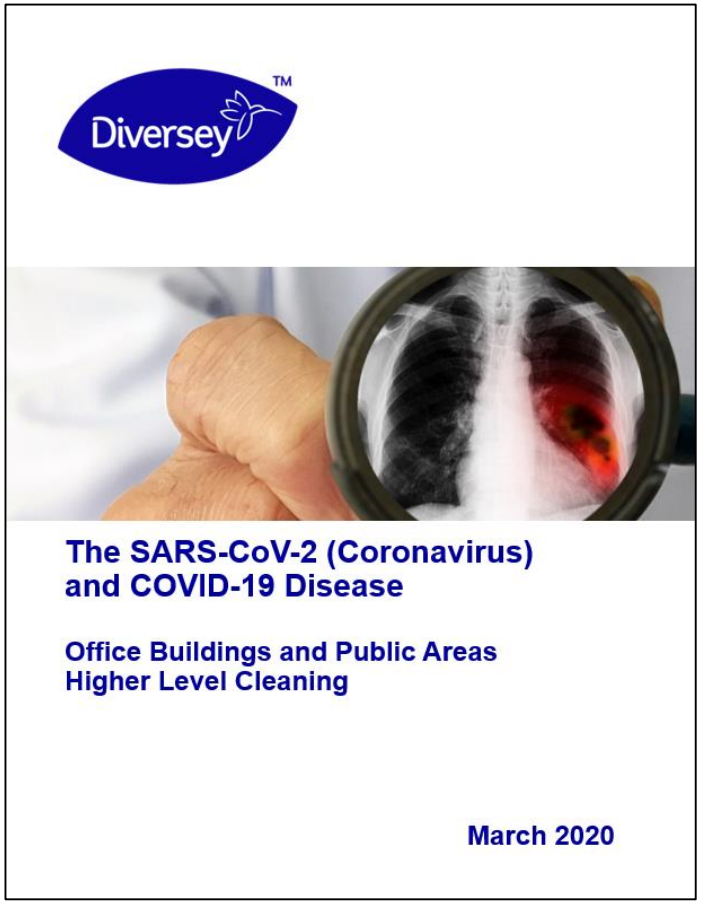

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