

Environmental Cleaning and Disinfection for Community Facilities

Objective

1. COVID-19 – Preventing Spread
2. Developing a Cleaning and Disinfection Program
3. Describe Principles of Environmental Cleaning and Disinfection
4. When/Where to use cleaning or disinfection
5. Required PPE for Cleaning and Disinfection
6. How to perform Cleaning and Disinfection of Facilities
7. Environmental Cleaning Resources

COVID-19

- COVID-19 is a virus spread mainly by coughing, sneezing or direct contact with a sick person, or with surfaces they have recently touched.
- **These droplets are large and can travel up to 2 meters, landing on objects and surfaces around the person. People then catch COVID-19 by touching these objects or surfaces, then touching their eyes, nose or mouth. (Known as the T zone)**

How do we control the spread within our facilities

- Performing hand hygiene
- Respiratory Etiquette (Cover coughs and sneezes with tissue or cough into flexed arm)
- Wearing appropriate personal protective equipment (PPE)
- Do effective ENVIRONMENTAL CLEANING

How long does this virus survive on surfaces?

- It is not certain how long this novel coronavirus survives on surfaces, but it seems to behave like other coronaviruses.
- Studies suggest that other coronaviruses' (including preliminary information on the COVID-19 virus) may persist on surfaces for a **few hours or up to several days**.

This is dependent on:

- Surface type (ex. Metal/plastics)
 - Temperature and
 - Humidity
- If you think a surface may be contaminated easily or is known to be contaminated, clean then disinfect it frequently

Reference: World Health Organization (March 9, 2020). Q&A on coronaviruses (COVID-19). Retrieved from <https://www.who.int/news-room/q-a-detail/q-a-coronaviruses>

Developing an Environmental Cleaning and Disinfection Program

An environmental cleaning program describes the set of policies, procedures and interventions in which to ensure consistent cleaning and disinfection within a facility

- Identification of equipment and general patient areas to be cleaned
- Supplies and equipment needed for environmental cleaning
 - Cleaning and disinfection products, mops, brooms, vacuums, and cloths
- Cleaning techniques for all equipment and areas
- Personal Protective Equipment required (based on manufacturer's or additional precautions)
- Person/Staff Responsible
- Determine minimum cleaning frequency

Develop templates for records to verify completion

- Ensure provide training to all cleaning staff on how to implement the Cleaning and Disinfection program based on the standards and protocols set.

Facility Specific Standards and Protocols

- a. Define roles and responsibilities (e.g. the assignment of cleaning tasks/specific equipment) for a specific area.
- b. Ensure non-environmental services cleaning staff have necessary supplies (e.g. ready-to-use disinfectant wipes, pre-mixed disinfectant solution, buckets, and cloths) to perform urgent cleaning tasks after hours.
- c. Define regular cleaning and disinfection tasks and those performed on an as needed basis.
- d. Include a method to differentiate clean items from soiled items.
- e. Designate separate areas for handling/storing clean and soiled items.
- f. Choose cleanable materials and finishes that are smooth, non-porous, water resistant, durable, and compatible with facility cleaning and disinfection products.
- g. Include a process for identifying and reporting damaged (e.g. scratched, chipped, or torn) surfaces that impair effective cleaning and removing them from service.

Factors that impact recommended cleaning frequencies

- a. Frequency of touch
- b. Likelihood of contamination based on usual or expected activities
- c. Patient population.
 - Areas are classified as very high, high, moderate, and low risk depending on patient population, activities being performed and microbial load.
- d. Level of communicable disease activity (e.g. outbreak):
 - Increase the frequency of cleaning and disinfection of high touch surfaces
 - Clean and disinfect the room and equipment when a patient is taken off Additional Precautions (unless Additional Precautions removed because patient tested negative and has no positive history).
 - Clean and disinfect all affected areas at the end of the outbreak.

Environmental Cleaning and Disinfection Methods

Cleaning

Cleaning is the physical removal of visible soiling (e.g., dust, soil, blood, mucus). Cleaning removes, rather than kills, viruses and bacteria. It is done with water, detergents, and steady friction with a clean cleaning cloth/towel/mop.

Cleaning for COVID-19 virus is the same as for other common viruses. In general, cleaning should be done whenever surfaces are visibly soiled.

Surfaces must first be cleaned prior to disinfection (2 step process).

Source: AHS (July 2019). Guidelines for Outbreak Prevention, Control and Management in Supportive Living and Home Living Sites

Cleaning

There is a lack of specific evidence for the effectiveness of specific cleaning products against COVID-19.

For this reason:

- Enhanced environmental cleaning using facility approved reagents is recommended. The thoroughness of cleaning is more important
- Equipment should be cleaned and disinfected only with products and procedures outlined in the manufacturer's directions for that equipment.

Source: AHS (July 2019). Guidelines for Outbreak Prevention, Control and Management in Supportive Living and Home Living Sites

Disinfection

Disinfection is the inactivation (killing) of disease producing microorganisms (viruses and bacteria) through wetting of a surface with a ready-to-use disinfectant wipe or cloth saturated with a disinfectant solution prepared according to the manufacturer's instructions for use. This is most effective after surfaces are cleaned. A disinfectant is only applied to objects; never on the human body. To achieve disinfection, the surface must stay wet for the manufacturer's recommended contact time (the time needed for the disinfectant to work)

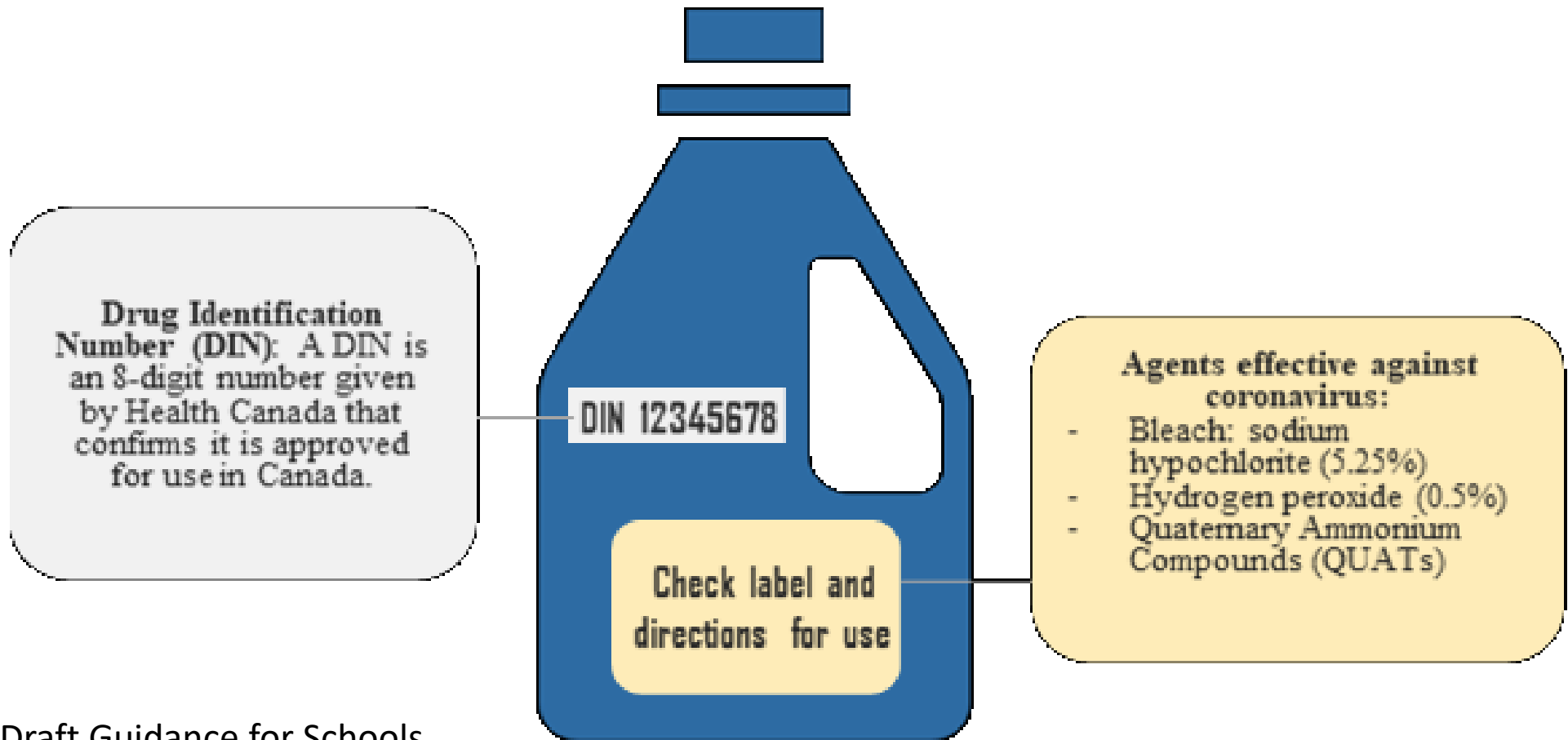
- Disinfectants to be used in healthcare facilities are products that are:
 - approved by Health Canada
 - and have a Drug Identification Number (DIN)
- If the disinfectant product used has cleaning properties (detergent/disinfectant) it may be used for both steps. Follow manufacturer's directions for use.

*** Most household products are not approved to be used in healthcare facilities.

Disinfection

- Public facilities should have existing policies to disinfect high-touch surfaces at least twice daily and when soiled; if not, these should be developed.
- Consider more frequent disinfection whenever respiratory illnesses are circulating in the facility.
- As well, additional disinfection should occur in any settings occupied by a symptomatic individual and at risk of COVID-19.

Choosing a disinfectant



Cleaning and Disinfection Product Label Checklist

- ☐ DIN number
- ☐ Product name is clearly labelled
- ☐ Quantitative statement of ingredients (how much of the active ingredients)
- ☐ Broad spectrum and Virucidal
- ☐ Intended use
- ☐ Area and site of use
- ☐ Directions for use, including compatible surfaces/instruments
- ☐ Dilution procedure, if required
- ☐ Mode of application
- ☐ Wet contact time
- ☐ Rinsing instructions, if required
- ☐ Temperature for use and storage
- ☐ Appropriate precautionary symbols and statements
- ☐ First aid instructions

Low Level Disinfectants

Low level disinfectants are effective at killing vegetative (alive and reproducing) bacteria and enveloped viruses (additional protective surface) .

They are used on non-critical items (touch intact skin) such as work surfaces, countertops, and other environmental surfaces.

They are often found in common household cleaning products, with one of the following active ingredients:

- Quaternary ammonium (eg.) Lysol
- Phenols ****not to be used in nurseries or on toys*** (eg.) Pinesol
- 100 ppm chlorine solution = ½ tsp 5.25% household bleach per one litre of water (eg.) Chlorox liquid bleach
- 0.5% Accelerated Hydrogen Peroxide

Intermediate Level Disinfectants

Intermediate level disinfectants are effective for killing vegetative bacteria, enveloped viruses, and fungi (yeasts and mould).

They are typically used on non-critical items such as work surfaces, equipment.

Examples include:

- **5000 ppm chlorine solution = 1 part 5.25% household bleach to 9 parts water**
- 70-95% Alcohol solution
- CaviWipes

**** THIS IS THE LEVEL OF DISINFECTION REQUIRED FOR COVID-19.****

High Level Disinfectants

High level disinfectants are effective at killing vegetative bacteria, enveloped and non-enveloped viruses, fungi and mycobacteria. They ***are not*** effective at killing spores (highly resistant dormant structure).

They are used for semi-critical (non intact skin and intact mucus membranes) and critical items (penetrates body tissue), such as surgical tools/equipment, and are not used for general cleaning purposes.

Examples include:

- >2% Gluteraldehyde
- 6% Hydrogen peroxide

Concentration Verification

The concentration of the disinfectant influences its effectiveness. Therefore it is important to verify the concentration with test strips following mixing the solution and prior to use.

1. Ensure the strips are for the disinfectant used
2. Use the strips to ensure the desired concentration is reached.
3. Mix a new solution if concentration is inadequate
4. Keep away from water and sunlight



Cleaning and Disinfection for COVID-19 in Healthcare Facilities

- 1. MUST HAVE A DIN (DRUG IDENTIFICATION NUMBER)**
- 2. LABELLED AS A BROAD-SPECTRUM VIRUCIDE**
- 3. MAKE SURE TO FOLLOW THE DIRECTIONS ON THE LABEL**

OR

1 PART HOUSEHOLD BLEACH (5.25%) to 9 PARTS WATER

Where to Clean and Disinfect: High Touch Surfaces

Conduct frequent cleaning and disinfection of high touch surfaces within the facility such as:

- Light Switches
 - Call Bells
 - Toilets
 - Sinks/Taps/faucets
 - Water coolers
 - Door knobs/handles
 - Tables/Chairs
 - Phones
 - Computers
 - Handrails
 - Countertops
 - Examining tables
 - Baby weigh scales
 - Baby change tables
 - Beds, Bedrails
 - Cribs
- Common areas such as dining areas, lounges, recreational areas, at least twice daily and when soiled.

Reference: PHAC (March 2020) Infection prevention and control for coronavirus disease (COVID-19): Interim guidance for acute healthcare settings

When to Clean and Disinfect for COVID-19

- Equipment should be cleaned and disinfected after every use.
- High touch surfaces should be cleaned and disinfected at least twice daily and when soiled.
- Any equipment that is shared between residents should be cleaned and disinfected before moving from one resident to another. (e.g. commodes, blood pressure cuffs, thermometers)
- Clean the entire room/bed space area, including all touch surfaces (e.g. overhead table, grab bars, hand rails) when someone who is suspected or confirmed for COVID-19 has moved.

Where to Clean and Disinfect:

Cleaning upholstered furniture, rugs or carpets

Clean and disinfect when:

- Contaminated with vomit or stool, it may be difficult to clean and disinfect completely.
 - Consult manufacturer's recommendations for cleaning and disinfection of these surfaces.
- If appropriate manufacturer's recommendations are not available, consult Public Health.

****Consider discarding items that cannot be appropriately cleaned/disinfected, when possible/appropriate.

What to Clean:

Linens, Clothing and other items to be Laundered

- Discard all disposable client/resident-care items and launder unused linens (e.g., towels, sheets) from the rooms when the isolation precautions have been removed.
- Do not shake dirty laundry; this minimizes the possibility of dispersing virus through the air.
- Wash items as appropriate in accordance with the manufacturer's instructions.
 - Use the warmest appropriate water setting for the items
 - Dry items completely. Dirty laundry that has been in contact with an ill person can be washed with other people's items.
- Clean and disinfect hampers or other carts for transporting laundry according to guidance for surfaces.
- Privacy curtains should be changed if visibly soiled.

Reference: AHS (July 2019). Guidelines for Outbreak Prevention, Control and Management in Supportive Living and Home Living Sites

Personal Protective Equipment (PPE) for Cleaning Staff (generally)

Cleaning staff should wear PPE indicated by the manufacturer of the cleaning/disinfection agent

- PPE should be compatible with the disinfectant products being used.
- Remove ALL PPE carefully after cleaning a room to avoid contamination of the wearer and the surrounding area. Use AHS Donning and Doffing posters as a guide.

ALL PPE must be removed after cleaning a room or area occupied by ill persons.

Cleaning staff and others should perform hand hygiene before donning and after doffing PPE:

- Wash with **soap and water for 20 seconds** especially when visibly soiled.
- If hands are not visibly dirty, use **alcohol-based hand rub**

Cleaning staff should immediately report breaches in PPE (e.g., tear in gloves) or any potential exposures to their supervisor.

COVID-19

Additional Precautions


Additional Precautions are **precautions** and practices required in **addition** to Routine Practices. They are based on the mode (means) of transmission of the infectious agent: airborne, droplet, and contact. For COVID-19 the required Additional precautions are Contact & Droplet.

Routine Practices are practices applied when interacting with every patient, every time, regardless of their diagnosis or infectious status.



The following signage should be visible on entry to the client room if a client is suspected or confirmed of COVID-19.

- Always remove ALL PPE carefully after cleaning a room to avoid contamination of the wearer and the surrounding area.
- Use Donning and Doffing posters as a guide. (on One Health)


CONTACT & DROPLET PRECAUTIONS



CLEAN YOUR HANDS WHEN ENTERING AND EXITING ROOM



STAFF AND VISITORS



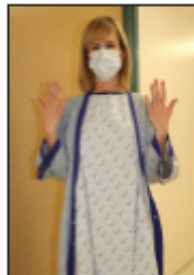
VISITORS:

PLEASE CHECK WITH NURSING STAFF BEFORE ENTERING ROOM.

VISITORS TO WEAR FACIAL PROTECTION IN ROOM.

GOWN AND GLOVES IF ASSISTING WITH CARE.

PATIENTS UPON LEAVING ROOM




(FOR ESSENTIAL PURPOSES ONLY)
(PROCEDURE MASK, CLEAN GOWN/ CLOTHES AND HANDS)

Influenza A or B (confirmed or suspected) + Aerosol Generating Medical Procedure (AGMP)
= N95 Respirator + eye protection

SINGLE ROOM RECOMMENDED WITH DEDICATED EQUIPMENT

April 2018



PPE for Cleaning Staff for COVID-19

Contact & Droplet Precautions

Require:

- Gown
- Gloves
- Facial Protection
 - Procedure mask
 - Eye protection - Goggles, face shield, or visor

NOTE: Glasses are not a substitute for eye protection



Cleaning and Disinfection Supplies

Gather the necessary supplies

- a. Cleaning cart equipped with cleaning supplies
- b. Cleaner and/or disinfectant solutions and/or ready-to-use wipes
 - Prepare solution as indicated by manufacturer instructions
 - Verify concentration with recommended test strips
 - Where a disinfectant claims to have both cleaning and disinfecting properties, the product may be used for both steps (following manufacturer's instructions)
- c. Bucket with wringer
- d. Adequate supply of cleaning cloths/towels
- e. Plastic bag/container for dirty cloths and waste
- f. Non-abrasive scrubber

Cleaning Steps for COVID-19

Identify if Additional Precautions are needed. Signage will be posted on the door.

1. Perform hand hygiene
2. Wear appropriate PPE (gloves, gown, face protection (goggles and procedure masks) before entering the room)
 - Use AHS Putting on (Donning) PPE procedure.
3. Clean room: “high to low”, “walls to center”, “clean to dirty”
 - Start by door, move clockwise around room to clean
 - Toilet rooms should be cleaned last
 - Spot clean walls, baseboards and windows
 - Clean and disinfect wall-attached items such as intercom, blood pressure machine, dispensers, and window ledges

Cleaning Steps for COVID-19

4. Change cloths/mop heads when:
 - Visibly soiled.
 - No longer wet enough to moisten surfaces.
 - Moving from a dirty area to a clean area.
 - Exiting a patient room under Additional Precautions.
5. Clean and Disinfect all high-touch surfaces
 - Change cleaning cloth frequently
6. Wipe all horizontal surfaces in room including counters, tables, and chairs.
7. Remove PPE before leaving the area or client care space
 - Use AHS Putting on (Donning) and Taking off (Doffing) PPE procedure.
8. Perform hand hygiene.

Reference: Health Canada (2016) Environmental Cleaning Module

Important considerations:

- ❑ Select the correct product for the intended task (e.g. cleaning or disinfecting)
- ❑ Use approved cleaning solutions and disinfectants
- ❑ Check the expiry date prior to use
- ❑ The presence of organic soil reduces the effectiveness of disinfectants. Use a two-step process for surfaces that are visibly soiled. Use one wipe to clean and another wipe to disinfect.
- ❑ Store all disinfectants out of the reach of children and confused individuals
- ❑ Ensure manufacturer's recommended wet-contact time is achieved for proper disinfection
- ❑ Cleaning and disinfecting products must have a Safety Data Sheet (SDS) for staff to refer to at all times and labels must be clearly marked
- ❑ Wear Personal Protective Equipment (PPE) as required for cleaning and disinfecting
- ❑ Do not use two different types of cleaning/disinfecting products on the same equipment/environmental surface as the chemicals may react with each other
 - (e.g. accelerated hydrogen peroxide products and quaternary ammonia products)

Environmental Cleaning Resources

Cleaning and Disinfection Guide for Health Care Facilities

Surface/Object	Procedure	Frequency	Disinfectant Type
Clinic Patient Care Spaces: <ul style="list-style-type: none"> - Examining tables - Baby weigh scales - Baby change tables - Beds, Bedrails - Crib - Crib beds 	<ol style="list-style-type: none"> 1. Clean with a hospital grade detergent solution or wipe. 2. Rinse with warm, clean water. 3. Disinfect with a low-level disinfectant as per manufacturer's instructions. 4. Allow to air dry. 	Between patients and when visibly soiled Daily and/or when visibly soiled	Low level <i>Typically not to be used on toys</i>
High Touch Surfaces: <ul style="list-style-type: none"> - Toilets - Sinks/Taps/ faucets - Water coolers - Door knobs/handles - Handrails - Countertops - Tables/Chairs - Phones/Computers - Other common items 			
Toys <ul style="list-style-type: none"> * Toys should be non-porous and not plush ** Toys should be removed during outbreaks 			
<ul style="list-style-type: none"> - Walls - Windows - Blinds/Curtains 	<ul style="list-style-type: none"> - Clean with a hospital grade detergent solution. - Fabrics should be laundered 	Monthly or when soiled	No disinfection required
<ul style="list-style-type: none"> - Non Absorbent Floors 	<ul style="list-style-type: none"> - Clean with a hospital grade detergent solution 	Daily and/or when visibly soiled	No disinfection required
<ul style="list-style-type: none"> - Carpets - Upholstery (sofas) 	<ul style="list-style-type: none"> - Vacuum, and steam clean as necessary * Use a vacuum equipped with HEPA filtration 	Daily and/or when visibly soiled	No disinfection required
Laundry	<ul style="list-style-type: none"> - Launder items using detergent and dry on the high heat setting. - Linens soiled with large quantities of organic material require pre-treating to remove the material. - Launder heavily soiled linens separately and add bleach to bleach tolerant materials 	After each use	—

When blood / body fluids spills occur on any of the above surfaces or objects, refer to your Nursing Procedures for specific cleaning and disinfection instructions.
Please consult with your Nurse in Charge or Environmental Public Health Officer.

During an outbreak, thorough environmental cleaning and disinfection with a disinfectant that has demonstrated effectiveness against the specific organism is required. Increasing the disinfectant level may also be required.
Please consult with your Nurse in Charge or Environmental Public Health Officer.

**** CLEANING AGENTS AND DISINFECTANTS USED IN HEALTHCARE FACILITIES MUST HAVE A DIN (DRUG IDENTIFICATION NUMBER) AND LABELLED AS BROAD-SPECTRUM VIRUCIDE.**

MAKE SURE TO FOLLOW THE DIRECTIONS ON THE LABEL**

Disinfectant Classifications

Low Level	Intermediate Level	High Level
<p>Low level disinfectants are effective at killing vegetative bacteria and enveloped viruses.</p> <p>They are used on non-critical items such as work surfaces, countertops, and other environmental surfaces.</p> <p>They are often found in common household cleaning products, with one of the following active ingredients:</p> <ul style="list-style-type: none"> • Quaternary ammonium (eg.) Lysol • Phenolic (various brands in nurseries or at home) (eg.) PineSol • 180 ppm chlorine solution = 11 tsp. 5.25% household bleach per one litre of water (eg.) Clorox Liquid bleach • 0.7% Accelerated Hydrogen Peroxide 	<p>Intermediate level disinfectants are effective for killing vegetative bacteria, enveloped viruses, and fungi.</p> <p>They are typically used on non-critical items such as work surfaces.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • 5000 ppm chlorine solution = 1 part 5.25% household bleach to 9 parts water • 70-85% Alcohol • CavWipes 	<p>High level disinfectants are effective at killing vegetative bacteria, enveloped and non-enveloped viruses, fungi and mycobacteria.</p> <p>They are not effective at killing spores.</p> <p>They are used for semi-critical and critical items, such as surgical tools/equipment, and are not used for general cleaning purposes.</p> <p>Examples include:</p> <ul style="list-style-type: none"> • >2% Glutaraldehyde • 6% Hydrogen peroxide

**** Please follow manufacturer's instructions for disinfectant preparation**
 For further information about the handling and use of disinfectants, please contact your
 Environmental Public Health Officer (EPHO)
 Edmonton: (780) 493-4669
 Calgary: (403) 293-1939

Environmental Cleaning Training Guide

- In 2016, each health centre received a USB stick with the training guide on it.
- The complete training guide is now posted on OneHealth



Where can I find up-to-date information about COVID-19?

Information on COVID-19 changes quickly and is updated frequently. For the most up-to-date information, visit one of the following websites:

One Health Alberta – Coronavirus Page

Alberta Health <https://www.alberta.ca/coronavirus-info-for-albertans.aspx>

Alberta Health Services <https://www.albertahealthservices.ca/topics/Page16944.aspx>

Public Health Agency of Canada

<https://www.canada.ca/en/public-health/services/diseases/2019-novel-coronavirus-infection.html>

World Health Organization <https://www.who.int/emergencies/diseases/novel-coronavirus-2019>

Follow Canada's Chief Public Health Officer, Dr. Theresa Tam, on Twitter at [@CPHO Canada](https://twitter.com/CPHO_Canada)

Additional Resources for Long Term Care

Alberta Health Services. (July 2020). Guidelines for Outbreak Prevention, Control and Management in Supportive Living and Home Living Sites: Applicable to Lodges, Retirement Residences & Designated Supportive Living Sites

Information for People Visiting Residents and Patients during Pandemic

<https://www.albertahealthservices.ca/assets/healthinfo/ipc/hi-ipc-covid19-infosht-visiting-pts-pandemic.pdf>

BCCDC Infection Prevention and Control for Novel Coronavirus (COVID-19): Interim Guidance for Long Term Care and Assisted Living Facilities http://www.bccdc.ca/Health-Info-Site/Documents/COVID19_LongTermCareAssistedLiving.pdf

Visitor and Volunteer Screening Questionnaire

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-visitor-guidance-continuing-care-and-congregate-living.pdf>

Poster – Congregate Living Settings /Continuing Care

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-19-translated-congregate-living-settings.pdf>

Poster – Visitor Alert

<https://www.albertahealthservices.ca/assets/info/ppih/if-ppih-covid-community-facility-poster.pdf>

There is also information at this link for **visiting people in the hospital**:

<https://www.albertahealthservices.ca/topics/Page17001.aspx#hospital>

Questions??

