

Disinfection Options in Child Care Facilities



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A. Purpose

This booklet explains how germs are spread in child care facilities. It also explains the differences between cleaning, sanitizing and disinfecting; the use of household bleach as a sanitizer/ disinfectant; and the use of acceptable alternatives. In child care facilities the use of bleach as a sanitizer and disinfectant is the most effective and least expensive, however there are times when an alternative is needed.

B. Glossary of Terms

Cleaning - removal of "soil" with soap and hot water. Some examples of "soil" include dirt, food residue, vomits and stool.

Contact Time - the amount of time required for a specific concentration of disinfectant to kill germs (germs are also called micro-organisms).

Disinfecting - killing micro-organisms on non-food contact surfaces such as toys, diaper change tables and door handles. We use disinfectants to do this.

Germs - micro-organisms, such as bacteria, viruses, fungi and parasites which can cause illness. Pathogen is the medical term for germs.

Infectious - means a disease which can spread from person to person.

ppm - means "parts per million", and refers to the concentration of a substance. In metric terms, it refers to the number of milligrams of a substance in a liter of water.

Sanitizing - this is basically the same as disinfecting, but it is done on food contact surfaces such as cutting boards, counters and dishes. We use sanitizers to do this.

Quaternary Ammonium - commonly known as quats.

Chlorine - easily available in bleach.

C. How are Germs Spread?

Child care facilities may serve as settings for the spread of infectious diseases. The spread of disease can occur through touching contaminated surfaces, objects, careless handling of food or by poor hand washing practices.



Germs can cause foodborne illness and gastroenteritis (sometimes called “stomach flu” or “24 hour flu”), colds, influenza and pinkeye to name a few.

Approved sanitizers & disinfectants have been proven to reduce germs to a level considered safe from a public health view point.

D. How You Can Reduce the Spread of Germs and Disease

When a person is ill they can spread germs. Ill staff and children should stay home. If a staff member becomes ill at work, they should leave work immediately. If a child becomes ill at the facility, they should be kept separate from the other children until their parent/guardian is able to pick them up. Be aware that germs can be spread several days after symptoms have ended.

a) Hand washing

Washing your hands is the single most important thing you can do to prevent the spread of disease. You should wash your hands whenever they may become contaminated and before preparing food.

1. Wet your hands with warm, running water.
2. Using liquid soap, lather well for 15 seconds, cleaning fingertips, between fingers and under your nails.
3. Rinse well for 15 seconds.
4. Dry your hands using a paper towel.
5. Turn off the tap and open the door using the paper towel.



b) Cleaning and Disinfecting Non-food Contact Surfaces

Use these steps to clean and disinfect toys, cupboard doors, shelving units, chairs and sleep mats.

1. Wash with warm water and soap; wipe down surfaces that need cleaning with a cloth or scrub brush.
2. Rinse well with clean, warm water.
3. Use a fresh solution with 100 ppm chlorine [5ml (1tsp) of unscented bleach per litre of water] or quaternary ammonium solution at a strength of 200 ppm (follow the label directions). *Never mix bleach and ammonia - it will cause deadly fumes!*
4. Wet the surface down with the solution and let it sit for 2 minutes.
5. Let air dry...do not rinse or wipe.

Note: If a sudden outbreak of vomiting or diarrhea occurs, it could be due to Norovirus. Norovirus is a very hearty organism which requires a stronger level of disinfectant. When cleaning vomitus or diarrhea, disinfect the area with a strong solution of bleach and water [125ml (1/2 cup) per litre of water] with a contact time of 1 minute. Caution: this concentration can damage some surfaces.

Alternatively, use Accelerated Hydrogen Peroxide (AHP) according to the manufacturer's instructions. AHP is a highly effective, less caustic product and is available from janitorial suppliers. For more information please contact your local Environmental Health Officer.

c) Cleaning and Sanitizing Food Contact Surfaces

Use these steps to clean and sanitize dishes, counters, cutting boards and eating tables.

1. Wash - In clean hot water containing an approved dish detergent.
2. Rinse - In clean hot water to remove detergent to help maintain strength of Sanitizing Solution.
3. Sanitize - By submerging dishes for 2 minutes in clean warm water-with a solution of:
 - Chlorine (bleach) at 100 ppm: 2 tablespoons (30 ml) per gallon (4 liters) of water.
 - Quaternary ammonium solution (200 ppm), or
 - Iodine (12.5-25 ppm).
4. Air Dry - On a clean, nonabsorbent surface. Do not wipe.

Note: Some toys can be submerged in water and can therefore be sanitized using this method. Wipe down counters and tables with the sanitizer solution. Allow them to air dry.

E. Disinfection Options

When choosing a disinfectant look for the following information:

- Drug Identification Number (DIN): assures the user that any claims made on the label are accurate.
- That the product is intended to be used as a disinfectant/sanitizer.
- Please note only chlorine, quats, iodine and AHP are approved for use as a sanitizer on food contact surfaces.
- For more information on disinfectants/sanitizers, please contact your local Environmental Health Officer.

Directions for use must provide instruction on:

- Precautionary information on safe handling procedures.
- Appropriate dilutions and application procedures.
- Contact time (how long to leave the disinfectant on the surface).
- Requirements for cleaning of surfaces prior to disinfection.
- Requirements for rinsing.
- Stability of product (e.g. daily mixing).
- Disposal of waste materials.

Also, look for first aid instructions on the label.



Always ensure safe storage of any cleaning product!

F. Questions and Answers

1. Q: Why is bleach generally recommended over other products?

A: Bleach is recommended over other products because it is inexpensive, strong and relatively simple to mix. Bleach is safe to use in day care in the concentrations recommended. The compound breaks up very quickly and the reactive part is only available for a brief period of time and then forms products (salt and water) that are no longer reactive and are safe if ingested and safe for the environment.

2. Q: How long can I keep bleach?

A: Bleach is easily broken down by light; that is why bleach is sold in solid colour bottles and new solutions must be made every day. Once the bleach is broken down by light and has lost its colour and odour it is no longer useful.

3. Q: If a product such as a pine fluid or phenols states it kills 99% germs or bacteria, is it acceptable instead of bleach?

A: It depends, based on what the active ingredient is and whether or not that active ingredient has been approved. Look for a DIN.

4. Q: Bleach has damaged staff and children's clothing. Is there a product that is safer for clothing?

A: Quaternary ammonium is safer for clothing, but is not effective against Norovirus.

5. Q: I find bleach has an unpleasant odour. Is there a disinfectant that is odorless?

A: First, consider how you are mixing the solution. Bleach, when mixed appropriately, has a mild odor. However, Quaternary Ammonia also has a mild odor.

6. Q: Are there any natural cleaning products that will sanitize?

A: No.

7. Q: I heard that dirt and dish soap neutralize bleach and make it ineffective as a sanitizer. Is this true?

A: Yes, this is why dishes must first be washed and rinsed before being submerged in a bleach solution and air dried. Air drying is required to ensure bleach has a sufficient contact time to kill germs.

8. Q: Where are products such as Virox ® available for purchase?

A: Check your local yellow pages under “janitorial supplies”.

9. Q: Where can I get more information on choosing the correct disinfectant for my facility?

A: Use the resources listed below or contact your local Environmental Health Officer.

G. Other Helpful References

Available on our Northern Health website: www.northernhealth.ca

- A Quick Guide to Common Childhood Diseases
- Preventing Illness in Child Care Settings

Ministry of Health

<http://www.gov.bc.ca/health/index.html>

British Columbia Centre for Disease Control

www.bccdc.org

Health Files

www.bchealthguide.org/healthfiles

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