



CHAPTER 7: ENVIRONMENTAL HEALTH INFECTION CONTROL



7. **INFECTION CONTROL**

- [7.1](#) Cleaning and Sanitizing Routines
- [7.2](#) How to Prepare a Sanitizing Solution using Bleach
- [7.3](#) Disinfecting in a Child Care Facility
- [7.4](#) How to Clean and Sanitize Surfaces
- [7.5](#) Child Care Centre Cleaning and Sanitizing Schedule
- [7.6](#) Diapering
- [7.7](#) Recommended Diaper Change Procedure
- [7.8](#) Toys, Play Tables, Craft Materials and Personal Items Cleaning and Sanitizing

See Chapter 3 for Outbreak Management



Cleaning and Sanitizing Routines:

Good cleaning and sanitizing practices can prevent outbreaks of illness within your child care centre. Having a proper cleaning schedule for your center is the first step to ensuring that the cleaning is being done effectively and regularly.

It is the responsibility of everyone working in the child care centre to ensure that the centre and its equipment remain clean and sanitary for the health of both the children and the staff.

Legislation

Health Protection and Promotion Act
Day Nurseries Act

Definitions:

Cleaning - The act of cleaning is to remove dirt. The physical action of rubbing of a towel on a surface creates friction, which is needed to remove visible dirt that may be on the surface.

Disinfection – The act of disinfecting is to destroy (kill) **most** disease-causing microorganisms on objects or surfaces using high temperatures or chemical solutions. Chemical disinfectants can be classified into three levels (low, intermediate and high-level disinfection) according to the type of product used, their concentrations and contact time.

Sanitizing - The act of sanitizing involves reducing the number of disease causing microorganisms on the surface of equipment and other objects to acceptable public health levels. Bleach is a common sanitizer that is very economical and effective however other sanitizer may also be used.

Purchasing a Sanitizer:

Here are some helpful tips on what to look for when purchasing a sanitizer:

- Read the label for a description of the product.
- Ingredients to look for in a sanitizer include:
 - chlorine
 - quaternary ammonium
 - iodine
 - accelerated hydrogen peroxide
- Determine what type of surfaces the product is designed to sanitize.
- Determine how to use the product; does it require pre mixing or is it used straight from the bottle.
- Look for Cautionary statements and warnings on the label.

Note: Store all sanitizers and other chemicals in a locked cupboard, out of reach of children and away from food.



How to Prepare a Sanitizing Solution using Bleach:

Low level disinfection - Preparing a 1:500 Household Bleach Solution.

Ingredients:

5 ml (1 tsp.) household bleach + 2 ½ Litres (10 cups) water

Intermediate level disinfection - Preparing a 1:100 Household Bleach Solution.

Ingredients:

5 ml (1 tsp.) household bleach + 495 ml (2 cups) water

Use: This dilution of bleach is effective for all types of sanitizing in a child care centre

High level disinfection - Preparing a 1:10 Household Bleach Solution.

Ingredients:

50 ml (1/4 cup) household bleach + 450 ml (2 1/4 cups) water

Use: This strong bleach/water solution should be used to disinfect/decontaminate areas and surfaces following contact with blood or body fluids.



Disinfecting in a Child Care Facility:

| Level of Disinfection | When to Use | Types of Disinfectants & Active Ingredients | Contact Time |
|--|---|---|---|
| <p>High-Level</p> <p>Kills all bacteria, fungi and viruses</p> | <ul style="list-style-type: none"> • During an outbreak. • Any confirmed case of viral/bacterial infection • Blood spills, vomit, body fluids or fecal contamination | <ul style="list-style-type: none"> • Chlorine (1:10 solution) • 7% Stabilized Hydrogen Peroxide • 6% Hydrogen Peroxide | <p>10 minutes</p> <p>20 minutes</p> <p>45 minutes</p> |
| <p>Intermediate-Level</p> <p>Kills most bacteria, fungi and viruses</p> | <ul style="list-style-type: none"> • Thermometers • Diaper change area, potty chairs (contact time for these items with 1:100 bleach solution is 30 seconds) | <ul style="list-style-type: none"> • Chlorine (1:100 solution) • 70% to 90% isopropyl or ethyl alcohol | <p>10 minutes</p> <p>10 minutes</p> |
| <p>Low-Level</p> <p>Kills some virus, bacteria and fungi</p> | <ul style="list-style-type: none"> • Floors, walls, washrooms, toys, countertops, tables • Diaper change area, potty chairs | <ul style="list-style-type: none"> • Chlorine (1:500 solution) • Quaternary ammonia compound | <p>10 minutes</p> <p>Follow manufacturer's instructions</p> |

Remember these Disinfecting Tips:

- Clean all surfaces with soap and water before disinfecting.
- Make disinfectant fresh daily
- Label the bottle clearly with the name of the chemical.
- Keep disinfectants out of reach of children.
- Follow the appropriate contact times, as listed above.
- Test all quaternary ammonia, iodine and chlorine compounds using the appropriate test strips.



How to Clean and Sanitize Surfaces:

1. Clean all items with soap and water.
2. Rinse with clean, clear water.
3. Apply a sanitizer. Follow manufacturer's recommendation for use.
4. A sanitizer is most effective when applied to a clean surface and allowed to be in contact with the surface for a minimum of 60 seconds.
5. Allow to air dry.

There are many methods for applying sanitizing solutions, here are a few suggestions:

- Spray diaper-changing surfaces and potties
- Use cloths rinsed in sanitizing solution for food preparation areas, or large toys, books, puzzles and activities centers.
- Try dipping the object into a container filled with the sanitizing solution for smaller toys.

Child Care Centre Cleaning and Sanitizing Schedule

Follow this schedule to ensure you are cleaning all areas of your daycare as is required.

| Area | Cleaning Frequency | | | | | |
|---|--------------------|----------------------|--------|--------------------|---------|-------|
| | After Each Use | Daily & as Necessary | Weekly | Once Every 2 Weeks | Monthly | Other |
| Play/Sleep Areas | | | | | | |
| Toys (clean) | | | X | | | |
| Shelving (clean) | | | X | | | |
| Linen/Bedding (launder) | | | X | | | |
| Cots (clean) | | | | X | | |
| Carpets (vacuum) | | X | | | | |
| Carpets (steam clean) | | | | | | X |
| Floors (under rugs) | | | X | | | |
| Floors (dry sweep & wet mop) | | X | | | | |
| Vinyl mats (clean) | | | X | | | |
| Garbage Containers (Empty) | | X | | | | |
| Garbage Containers (Clean) | | | X | | | |
| Dress-up clothes (launder) | | | X | | | |
| Water play table (clean & sanitize) | X | | | | | |
| Water play toys (clean & sanitize) | X | | | | | |
| Dry play table food contents (discard) | | | X | | | |
| Dry play table sand contents (discard) | | | | | X | |
| Dry play table | | | | | X | |
| Washrooms | | | | | | |
| Toilets (clean & sanitize) | | X | | | | |
| Handwashing sinks (clean & sanitize) | | X | | | | |
| Floors (clean & sanitize) | | X | | | | |
| Potty chairs (clean & sanitize) | X | | | | | |
| Shared combs & brushes (clean & sanitize) | X | | | | | |



| Area | Cleaning Frequency | | | | | |
|--|--------------------|----------------------|--------|--------------------|---------|-------|
| | After Each Use | Daily & as Necessary | Weekly | Once Every 2 Weeks | Monthly | Other |
| Infant / Toddler Rooms | | | | | | |
| Infant toys (clean & sanitize) | | | X | | | |
| Infant vinyl mats (clean & sanitize) | | X | | | | |
| Diaper change mat (sanitize) | X | | | | | |
| Diaper change table (clean & sanitize) | X | | | | | |
| Mouthed toys (clean & sanitize) | X | | | | | |
| Bibs (clean & sanitize) | X | | | | | |
| High chair table tops (clean & sanitize) | X | | | | | |
| Plush toys – not shared (launder) | | | X | | | |
| Cribs/cots (clean & sanitize) | | | X | | | |
| Diaper change hand sink (clean & sanitize) | | X | | | | |



Diapering

Diapering can pose a significant health risk in your child care centre unless extra care is taken with the handling of the soiled diaper and the work surface. Remember the following objectives:

- To prevent the spread of infectious disease among staff, children and their families.
- To provide adequate skincare and comfort to each child
- To properly store clean diapers and dispose of soiled ones.
- To keep children safe during diapering.
- To avoid cross contamination by keeping diapering area away from food preparation area

Expectations of Operator:

- Establish a procedure for proper diaper changing that includes hand washing, sanitizing the diaper changing surface, and proper disposal of the used diaper and wiping material.
- Post diaper changing procedure in the diaper change area.
- Ensure child care centre staff follows proper procedure for diapering.
- Ensure that all hand washing facilities are properly equipped at all times (liquid soap in a dispenser, paper towels and garbage receptacle with a lid).

Diaper Change Area:

The diaper change area must be both safe and sanitary for the child. Constant supervision while the child is on the change table is essential. The surface must be such that it can be thoroughly cleaned and sanitized. The surface of the diaper table should be non-porous, smooth and washable. In addition, it should not be quilted or have buttons (buttons and stitching trap germs on the surface, allowing them to enter the inside padding). It is also important to regularly inspect surfaces for rips, tears and pin holes.

A hand sink must be adjacent to each diapering areas. The caregiver should wash own hands and the child's hands after the diaper has been changed.

Soiled Clothing or cloth diapers should not be washed at your centre. Empty the solid material into the toilet, and then place soiled items into a plastic bag to be send home with the parents.

Diaper Change Area Sanitizing Procedure:

- Remove visible urine or stool on the surface with a disposable towel or toilet paper and discard.
- Clean the surface with detergent.
- Sanitize change table after each use using an intermediate level disinfectant.
- Clean, Sanitize and air dry the diaper pails on a daily basis.

Note: Using a disposable liner does not eliminate the need to sanitize the area after each diaper change.



Recommended Diaper Change Procedure:

1. Assemble supplies within easy reach.
2. Wash your hands. Disposable gloves should be worn when a child has diarrhea. Remember gloves are not a substitute for hand washing.
3. Place child on the change table. Remove soiled diaper and fold it inwards.
DO NOT LEAVE CHILD UNATTENDED ON TABLE AT ANY TIME.
4. Clean child's skin with moist disposable wipes. Discard wipes after use.
5. If wearing gloves, discard them now.
6. If applying ointment, use a clean, disposable applicator to obtain ointment from the container.
7. Wash or wipe hands with a clean, moist wipe and discard. Diaper and dress the child.
8. Discard soiled diaper into a plastic-lined receptacle. Double bag soiled clothing for parents. Do not rinse soiled clothing or cloth diapers.
9. Wash your hands and then wash the child's hands. Return child to the play area.
10. Clean and sanitize the diaper change table after each child. Make sure that the entire surface of the change table remains wet for the appropriate contact time.
11. Allow diaper change surface to air dry.
12. Wash your hands
13. Report any abnormal skin or stool conditions to the parent, such as skin rash, unusual stool consistency, colour, odour or frequency).

Bathrooms:

Bathrooms must be cleaned at least once a day. Cleaning includes floors, toilets, hand sinks, countertops, and utility sinks. Use rubber gloves to protect hand from harsh chemicals.

Toilets:

- Clean and Sanitize once a day and when obviously soiled.
- Toilet seat inserts which maybe used by young children, must be cleaned and sanitized after each use.

Potty Chairs:

- Store chairs in a place that is not accessible to children unless they are supervised
- Potty must be cleaned and sanitized after each use.
- Do not use bathroom sink to dispose of potty material or to clean and sanitize potty. Use designated utility sink.
- Potty chairs do not replace the building code requirement for number of toilets in a facility.



Toys, Sensory Play Tables, Water Play Tables, Craft Materials and Personal Items

Play is an essential part of a successful daycare program. Operators must recognize that while beneficial, toys and sensory play equipment can easily become contaminated with germs that can result in illness and outbreaks.

Legislation

Health Protection and Promotion Act
Day Nurseries Act

Expectations of Operator:

- Establish and follow a regular cleaning and sanitizing schedule for toys and other play environments. Post the schedule in your centre and ensure all staff are aware of the requirements.
- Use the appropriate cleaners and sanitizers. Verify sanitizer concentrations using the appropriate test strip.
- Store cleaners and sanitizers so that they are clearly labeled and inaccessible to children.
- Store each child's personal items separately.
- Inspect toys regularly and remove any that may pose a hazard or have been recalled.

Look for toys that are:

- Easily cleaned and sanitized.
- Washable.
- Made of non-toxic materials.
- Have smooth edges and no parts that can break off easily.

Toy Cleaning and Sanitizing Procedure:

Refer to the *Daycare Cleaning and Sanitizing Schedule* to ensure you are cleaning and sanitizing your toys as often as is required to reduce the transmission of disease.

To clean toys properly follow these simple steps:

- Using soap, warm water and a scrub brush used only for toy cleaning, scrub the surfaces of the toy.
- Rinse the toy in clean, warm water
- Apply the appropriate sanitizer, ensuring the toy stays wet for the proper contact time.
- Allow the toy to air dry.
- Wash your hands.



Sensory Play Tables

Sensory play tables, while a fun activity for children, can also be a source for spreading infections from one child to another. Close supervision is essential.

Sensory play tables can be filled with sand, water or food for indoor play providing the following requirements are met:

Sand Tables

- Have children and staff **wash their hands** before and after using the table.
- Purchase table sand from a supplier such as a garden centre or toy store. The packaging should state that the sand has been washed and dried and is dust and silica free. Soil is not permitted.
- Discard and replace sand contaminated with human waste.
- Clean area beneath the play table daily. Discard any material that is spilled on the floor. Spilled materials must not be placed back into the sensory play table.
- Keep table covered when not in use.
- Ensure all toys used in the sensory play tables are cleaned and disinfected at least once per week, or more often if required.
- Clean and disinfect sensory play tables at least once per week and more often if required following the sensory play table cleaning and sanitizing procedure below.

Food Tables

- Have children and staff **wash their hands** before and after using the table.
- Use only dry food materials in play tables. If the food material becomes wet, it must be discarded and replaced.
- Discard and replace food contaminated with human waste.
- Clean area beneath the play table daily. Discard any material that is spilled on the floor. Spilled materials must not be placed back into the sensory play table.
- Discontinue use of food in sensory play tables in the event of a rodent or insect infestation.
- Keep sensory play tables covered when not in use.
- Ensure dry food items used in the play table are kept no longer than a week and then discarded.
- Ensure all toys used in the sensory play tables are cleaned and disinfected at least once per week, or more often if required.
- Clean and disinfect sensory play tables at least once per week and more often if required following the sensory play table cleaning and sanitizing procedure below.



Water Play Tables

- Have children and staff **wash their hands** before and after water play.
- Use potable (chlorinated or municipal) for water play.
- Individual water play containers are recommended for infants, toddlers and diapered children. Individual containers can be grouped together on the floor to permit children to play together.
- Group water play tables can be used for preschool aged children.
- Choose a tub that is small in size, light weight and easy to handle.
- Choose tubs with smooth, non-absorbent, easily cleanable surfaces.
- Fill the water play tub with clean tap water just before use.
- Change the play tub water at least once each day and more often if necessary.
- Do **NOT** add bleach, vinegar or other disinfectants to the play water.
- Clean and sanitize all toys used in water play tables after each use.
- Cover sensory play tables when not in use

Sensory Play Table Cleaning and Sanitizing Procedure:

- Thoroughly scrub all surfaces of the tub using warm water, soap and a scrub brush.
- Rinse off detergent with clean, clear water.
- Apply sanitizer being sure to follow the manufacturer's instructions. For a fresh bleach solution mix 63mL (1/4 cup) of bleach in 4.5L (1 gallon) of water. For a smaller quantity, mix 5mL (1tsp) of bleach in 150 mL (3 cups) of water.
- Let the sanitizer sit in the tub for the proper contact time (e.g. at least 10 minutes if using a bleach solution).
- Empty the tub and allow it to air dry.

SENSORY PLAY TABLES ARE NOT TO BE USED DURING AN OUTBREAK OF COMMUNICABLE DISEASE DUE TO THE RISK FOR DISEASE TRANSMISSION

Craft Materials:

In order to ensure optimum safety for the children at your day care centre, special consideration must be given to the materials that are being used for crafts. The following recommendations have been established for craft materials:

- Ensure that all materials used for crafts are non-toxic.
- Ensure that toilet paper rolls, egg cartons and trays previously used to store hazardous food items with cannot be properly cleaned and disinfected (e.g. Styrofoam meat trays) are not used for crafts.
- Use Styrofoam with caution, it may present a choke hazard for small children.
- Use balloons with discretion. They are the leading non-food cause of choking death in children.
- Discard grains and cereal products after one week of use. If they become wet, discard immediately.
- Discard play-dough after on week of use.



Personal Items

An important aspect of preventing the spread of disease in your child care centre is to ensure that each child's personal items are stored separately from each other and cleaned/changed regularly.

Expectations of Operator:

- Store each child's personal items separately and ensure each item is clearly labeled with the child's name to avoid confusion of ownership.
- Each child should have their own toothbrush and toothpaste, comb and blanket.
- Ensure that if toothpaste is used, that it is dispensed from the container in a manner that will not contaminate the rest of the toothpaste (e.g. don't apply paste directly onto the toothbrush. Use a single-use, disposable wooden spatula to apply toothpaste from tube onto spatula and then onto the toothbrush).

Tooth brushes require special attention. Make sure that toothbrushes are stored:

- Out of reach of children.
- Not in contact with each other.
- Freestanding or on non-porous surfaces that are washed, rinsed and disinfected daily).
- Air dry brushes between uses.
- Discard toothbrush if there is a question of ownership.

Laundry

- Ensure laundered items are washed and disinfected with detergent and $\frac{1}{4}$ to $\frac{1}{2}$ cup of disinfectant at a laundry facility.

If your centre is in an outbreak, contact your Public Health Inspector for further direction and assistance.