

Chapter 2

Preventing the spread of infection

Introduction

Germ or micro-organisms are everywhere. They can be found in the air, soil, water and in our own body substances (e.g., stool, mucous). When you help children in the bathroom, change diapers or wipe noses, you are coming into direct contact with the germs the children carry. As a result, you may become ill and spread the germs to other children. Therefore, it is important for your centre to establish written policies and procedures that will protect the children and you from becoming infected by these micro-organisms.

Although infection control can be a painstaking process, it is the simplest, most inexpensive way to prevent a serious outbreak of disease from occurring in your centre.

This chapter contains information on the following topics:

- Handwashing
- Diaper changing
- Cleaning and disinfection
- Potty chairs and toilet inserts
- Toiletry and personal items
- Cribs and other items used for sleeping
- Sensory play tables
- Pets
- Rabies
- Petting zoos

Refer to the section *Routine practices to prevent or reduce the transmission of diseases* in Chapter 5 for information on how to handle blood spills.

Child care centres are inspected annually by a public health inspector to ensure infection control measures are in place. Refer to Appendix 2 *Child care centre inspection report* for a list of items reviewed during the inspection.

Tips for Success

- Avoid “*dump and run*” situations. Take time to greet both parent and child each morning and ensure the child is well enough to participate in your program.
- Have written policies in place to deal with a child/staff who becomes ill during the day
- Post a cleaning and disinfection schedule for your staff and ensure it is followed
- Make sure parents understand their responsibilities when their child is too ill to remain in your program at the time they register
- Treat ill children as if they are infectious and designate an isolation area in the centre for this purpose.

Hand washing

The single most important thing you can do to control infections is to keep hands clean – yours, your staff's, and those of the children in your care.

Hand washing procedure

Use a hand washing sink that has hot and cold running water, paper towels and liquid soap in a dispenser. Hot water temperature must not exceed 49 °C (120 °F) to prevent scalding. Tempering devices are available and should be used.

Hand washing procedure for staff

1. Remove jewelry
2. Wet hands
3. Use soap and warm running water
4. Rub your hands vigorously as you wash for a minimum of 15 seconds
5. Wash all surfaces, including backs of hands, wrists, between fingers and under fingernails
6. Rinse hands well. **Leave water running.**
7. Dry hands with a paper towel
8. Turn off hand controls with paper towel. **Do not use your bare hands to turn off taps.**
9. If nailbrushes are used, only use those made from plastic bristles, not hair bristles

Note: Nailbrushes should be personal and are not to be shared by staff members

Wash your hands:

- When you arrive at work
- Before preparing, serving or eating foods
- After diapering a child or checking a diaper
- After cleaning up body fluids or wiping a nose
- After you have been to the bathroom, with a child or by yourself
- After sneezing or coughing into your hand/s (try to cough or sneeze into your upper sleeve or use a tissue to cover your mouth - discard the tissue and wash your hands)
- After playing outdoors with children
- Before giving any medications
- After assisting a child with hand washing
- After handling chemicals
- After handling any animals

Refer to Appendix 2 *Correct Handwashing Procedure*, *When to wash hands* and *How to correctly use hand sanitizer* sign, and post these resources at all hand washing sinks. If you require additional signs, please call York Region *Health Connection* at 1-800-361-5653 and speak with a local public health inspector or visit www.york.ca/comegrowwithus.

Hand washing procedure for infants

1. Wash your hands
2. Clean infant's hands thoroughly with a damp paper towel moistened with soap
3. Wipe hands from wrist to fingertips using a fresh paper towel moistened with water
4. Dry infant's hands with a fresh paper towel
5. Turn off taps with paper towel and discard
6. Re-wash your hands

Hand washing procedure for toddlers

1. Wash your hands
2. Have child wet their hands
3. Squirt a drop of liquid soap onto child's hands
4. Help child wash all areas of hands for 15 seconds
5. Rinse child's hands from wrist to fingertips under running water
6. Dry child's hands with a fresh paper towel
7. Turn off taps with paper towel and discard
8. Re-wash your hands

Hand washing procedure for older children:

- Ask the child to wash their hands correctly
- Show the child how to wash their hands if they don't know or have forgotten
- Remind the child that washing hands will help to keep them from getting sick

Wash children's hands when:

- They arrive at the centre
- Before they eat or drink
- After they use the toilet or have their diapers changed
- After sneezing or coughing (teach children to cough or sneeze into their upper sleeve or to use a tissue to cover their mouth - discard the tissue and wash their hands)
- Before and after playing in sensory tables (including sandboxes)
- After playing outdoors

The York Region Community and Health Services Department, Health Protection Division has developed educational resources for hand washing.

If you would like more information about this package, please call York Region *Health Connection* at 1-800-361-5653 and speak with a local public health inspector.

Changing diapers

Germs are everywhere. They grow particularly well in body fluids such as urine and stool contained in diapers. Not only are staff at risk of becoming ill if they do not take precautions when changing diapers, but improper diaper changing may result in an increased spread of disease among children.

Change area set-up

Set up a change area that is separate from the children's activity area and the food preparation areas.

Provide a changing surface that is approximately 1 metre (3 feet) from the floor and covered with a smooth, moisture-resistant, easy to clean material. Ensure that it has a safety ledge at least 6.3 to 7.6 cm (2½ to 3 inches) in height, running at least ¾ of the table length.

Provide a non-absorbent/non-quilted change pad and use disposable change paper under each child.

Each child should be provided with their own creams and diaper wipes. Each child's products must be labeled with their name. Communal diaper creams shared amongst children are not allowed.

Personal diaper change items must be stored in a sanitary manner. Children should not have access to these items.

To dispose of soiled diapers, provide a separate garbage container with a tight fitting lid. It must be lined with a disposable plastic bag. Make sure that it is stored out of the reach of children. Empty the garbage frequently. Clean and disinfect garbage container twice weekly (refer to *Keeping your centre clean* in this chapter).

A hand washing sink must be provided in the same area as the diaper changing table. This sink should be used only for the purpose of hand washing. Ensure the hand wash sink is always equipped with a supply of liquid soap, paper towels and hot and cold running water.

Remember, the change table is only to be used for the purpose of changing diapers.

Disposable diaper change procedure

1. Never leave a child unattended on the change table
2. Assemble supplies within easy reach
3. Put on disposable gloves
4. Hold the child away from your clothes as you place them on a change pad lined with clean change paper
5. Remove diaper folding the soiled surface inward
6. Clean the child's skin with moist disposable wipes. Wiping front to back, removing all soil from the skin and its creases.
7. Place the soiled diaper and disposable wipes in a plastic-lined garbage container
8. Wipe hands on a clean paper towel and place it in the waste container
9. Use skin care products only if requested by the parent and only for the designated child. Be sure that the skin care products are labeled with the child's name.
10. Fasten the diaper in place, dress the child and remove the child from the change table
11. Place the used change paper in a plastic-lined garbage container
12. Remove gloves and dispose of soiled diaper in garbage container
13. **Wash your hands** (refer to the section on *hand washing* in this chapter)
14. **Wash the child's hands** and return them to a supervised area
15. Clean and disinfect the change pad with a disinfecting solution and a disposable paper towel (refer to the section on *Keeping your centre clean* in this chapter). Remember, when disinfecting, allowing for the proper contact time is very important. Ensure that the area is dried before applying new change paper.
16. **Wash your hands.** Refer to the section on *hand washing* in this chapter.
17. Record and report any abnormal skin or stool conditions to parent(s) (e.g., skin rash, unusual stool consistency, colour, odour or frequency)

Note: Do not rinse soiled clothing at the centre. Use toilet paper to remove formed stool from clothing. Discard stool and toilet paper in the toilet and flush. Place the soiled clothing in a bag and send the bag home with the child's parent.

Refer to Appendix 2 *Recommended Diaper Change Procedure* sign and post at all diaper change tables.

Cloth diapers

When using cloth diapers in your centre, you must do the following:

- If a diaper service is being used at the day nursery, inform your public health inspector of the name, address and telephone number of the diaper service
- If cloth diapers are being sent home with the child for laundering, ensure soiled diapers are put into a plastic bag with the diaper contents undisturbed and sent home for laundering at the end of each day
- Some cloth diapers are designed as a single unit with a waterproof covering attached to the cloth lining. This style is preferred. However, some diaper services provide a rectangular cloth and a separate waterproof pant
- To minimize the possibility of urine and fecal contamination due to leakage, use a waterproof pant that fastens at the waist and fits snugly around the legs. Do not use the “old fashioned” style that pulls up and down because the urine and stool may leak onto the pant and contaminate the child’s leg and feet when removed
- Use fresh waterproof pants with each diaper change even if they are not visibly soiled. Double bag the pants and returned to the parent for laundering
- Ensure that the cloth diapers are changed according to procedure. Refer to the section on *Cloth diaper change procedure* in this chapter
- A separate diaper pail is required to store cloth diapers. When not in use, this pail should be stored in a well-ventilated room that is inaccessible to children. This room cannot be used for food preparation or food storage
- Ensure that the diaper pail is cleaned and disinfected at least twice weekly. Refer to the section on *Keeping your centre clean* in this chapter.

Cloth diaper change procedure

1. Never leave a child unattended on the change table
2. Assemble supplies within easy reach
3. Put on a clean pair of disposable gloves
4. Hold the child away from your clothes as you place them on a piece of clean change paper. Remove the diaper, folding the soiled surface inward. If safety pins are used, close each pin immediately and place them out of the child's reach. Do not place the pins in your mouth.
5. Place the soiled diaper in a plastic-lined diaper pail, with a tight fitting lid.
6. Clean the child's skin with moist disposable wipes. Wipe front to back removing all soil from the skin and its creases
7. Place wipes in a plastic-lined garbage container
8. Wipe hands on a clean disposable cloth and place it in a plastic-lined garbage receptacle
9. Use skin care products only if requested by the parent and only for the designated child. Make sure that the skin care products are labeled with the child's name
10. Fasten the diaper in place, dress the child and remove the child from the change table
11. Place the used change paper in a plastic-lined garbage container
12. Remove disposable gloves and discard in plastic-lined garbage container
13. **Wash your hands.** Refer to the section on *Hand washing* in this chapter
14. **Wash the child's hands** and return them to a supervised area
15. Clean and disinfect the change pad with a disinfecting solution and disposable paper towels. Refer to the section on *Keeping your centre clean* in this chapter. Remember, allowing for the proper contact time is very important. Ensure that the area is dry before applying new change paper.
16. **Wash your hands.** Refer to the section on *Handwashing* in this chapter
17. Record and report any abnormal skin or stool conditions to parent(s) (e.g., skin rash, unusual stool consistency, colour, odour or frequency)

Note: Do not rinse soiled clothing or cloth diapers at your centre. Bag soiled clothing and/or cloth diapers and send home with the child's parent.

Keeping your centre clean

A clean, healthy environment in your centre helps prevent the spread of infectious diseases. Cleaning and disinfecting must be an ongoing part of your everyday routine. Cleaning and disinfecting is a two step procedure. Before you can properly disinfect, you must clean the surface with soap, water and scrubbing action.

Disinfecting surfaces

Remember: Cleaning *must* take place before disinfecting.

Level of disinfection	Disinfectant (examples) **	Contact time	Use in facility
High-level Disinfectant Bleach Solution	Chlorine* (e.g., household bleach 1:10 solution)	10 minutes	<ul style="list-style-type: none"> • Must be used during an <u>outbreak situation</u> • Recommended for any confirmed cases of viral or bacterial infections • Spills of blood, vomit, body fluids, fecal contamination
Other High-level Disinfectant Solution	Select a product that has a general virucide with claims against non-enveloped viruses (read the manufacturer's label). E.g. Virox	Follow manufacturer's instructions for dilution and contact time	
Low-level Disinfectant Bleach Solution	Chlorine* (e.g., household bleach 1:100 solution)	2 minutes	<ul style="list-style-type: none"> • For every day use on environmental surfaces (i.e. floors, walls, toys, counter tops, lunch tables) • Diaper change areas • Potty chairs • Bathrooms surfaces
Other Low-level Disinfectant Solutions	Quaternary ammonium compounds	Follow manufacturer's directions	

*Chlorine refers to a 5.25% sodium hypochlorite solution, commonly referred to as household bleach (e.g., Javex, Clorox).

** York Region Community and Health Services Department does not endorse the use of any of the brand named products listed.

Refer to the section on *How to make a bleach solution at the proper concentration* in this chapter for instructions on making your own disinfectant.

How to make a bleach solution at the proper concentration

Always consult your health and safety representative if you have any questions regarding the handling of chemicals. Be sure to mix solutions in a well ventilated area.

The chart below outlines how to prepare your own disinfecting solution at the proper concentration using household bleach (5.25% chlorine).

Chlorine disinfectant	Dilution factor	Small quantity	Contact time
High-level Disinfectant Bleach Solution	1:10	Add 62mL (1/4 cup) bleach to 562mL (2 1/4 cups) water	10 minutes
Low-level Disinfectant Bleach Solution	1:100	Add 5mL (1 tsp) of bleach to 500mL (2 cups) water	2 minutes

Disinfecting tips

- **Cleaning and disinfecting are different.** To properly disinfect an object, you must first clean it to remove dirt and organic matter. Failing to clean before you disinfect could result in inadequate disinfection.
- First, **wash** all articles with soap and warm water using friction to remove dirt and organic matter. Second, **rinse** off the soap with warm, clean water. Third, **disinfect** the article. Refer to the section on *Keeping your centre clean* in this chapter.
- Contact time is very important. Failing to leave your disinfectant on for the required length of time would result in inadequate disinfection. Refer to *Keeping your centre clean* in this chapter.
- Make your disinfectant fresh **daily**. Refer to the section on *How to make a bleach solution at the proper concentration* in this chapter.
- Clearly **label the disinfectant bottle** with the following information:
 - Product name
 - Information on the safe handling of the product
 - A statement that the *Material Safety Data Sheet (MSDS)* is available

Read and follow the instructions on the label of any chemical for dilution factor and contact time. If the manufacturer requires the product to be rinsed after disinfecting, then you must thoroughly rinse the article once disinfection has been completed.

- Store chemicals in a locked cupboard. They should be stored in a manner that children do not have access to them at any time
- Ensure chemical products are used within expiry date
- Store chemicals in a designated area away from food preparation and food storage areas
- *MSDS* must be provided for chemicals used in the workplace
- Refer to the section *Routine practices to prevent or reduce the transmission of disease in Chapter 5* for more information on blood and body waste spills

Potty chairs and toilet seat inserts

Learning to go to the toilet is part of a child's natural development. Usually between the ages of two and three years, a child is both physically and emotionally ready to use the toilet.

Special requirements are necessary when using potty chairs and toilet seat inserts to ensure these items are not potential sources for disease transmission within your centre.

Instructions for potty chair use

1. Choose potty chairs that are made of smooth, non-absorbent, easy to clean material and have a removable waste container. Keep the potty chairs in the bathroom away from playrooms, hallways, food preparation and food storage areas.
2. Put on disposable gloves. If the child wears a diaper remove it. If the diaper is soiled, clean and dry the child's skin and dispose of the diaper. Refer to the section on *Changing diapers* in this chapter.
3. Place the child on the potty chair
4. When the child is finished, wipe the child removing all soil
5. Wash your hands. Refer to the section on *Hand washing* in this chapter
6. Help the child wash their hands and return them to a supervised area
7. Empty the potty chair contents into the toilet
8. Rinse the potty chair with water and empty into the toilet
9. Clean the potty chair with soapy water, rinse and empty into the toilet
10. Apply a low-level disinfectant to the potty chair according to manufacturer's recommendations (refer to the section on *Keeping your centre clean* in this chapter). Allow potty chair to air dry
11. Remove gloves, discard, and wash your hands. Refer to the section on *Hand washing* in this chapter
12. Store potty chair in a sanitary manner
13. Record the child's use of the potty, any unusual bowel movements and skin condition, as necessary

Toilet seat inserts

1. Choose toilet seat inserts that are made of smooth, non-absorbent, easy to clean material. Inserts which have a foam padding covered in vinyl must be immediately replaced if the vinyl covering should tear. Patching these seats with tape is not acceptable.
2. Put on disposable gloves. If the child wears a diaper remove it. If the diaper is soiled, clean and dry the child's skin and dispose of the diaper. Refer to the section on *Changing diapers* in this chapter.
3. Place the child on the toilet or potty
4. When the child is finished, wipe the child removing all soil
5. Remove gloves, discard, and wash your hands. Refer to the section on *Hand washing* in this chapter
6. Help the child wash their hands and return them to a supervised area
7. Clean the toilet seat insert with soapy water
8. Apply a low-level disinfectant to the toilet seat insert according to manufacturer's instructions. Refer to the section on *Keeping your centre clean* in this chapter. Allow toilet seat insert to air dry
9. Wash your hands
10. Store toilet seat insert in a sanitary manner
11. Record the child's use of the potty, any unusual bowel movements and skin condition, as necessary

Refer to Appendix 2 *Recommended Toileting Routine* for more information.

Toiletry and personal items

- If you permit the use of personal toiletry items in your centre, ensure that each child has his or her own cloth, comb, brush, toothbrush and toothpaste. Label each of these items with the child's name.
- Store combs, brushes, and toothbrushes **separately** so that they do not touch one another
- If face cloths are used, they must be laundered after each use
- A conscious effort must be made to ensure that personal items are not shared
- Ensure that children's hats, coats, etc. are stored separately and that the hook or cubby used for storage of these items is clearly labeled with the child's name

Cribs, crib mattresses, sleeping cots and mats

- All crib mattresses, sleeping cots and mats must be smooth, non-absorbent and easily cleanable
- All crib mattresses, sleeping cots and mats should be provided with a secured, protective sheet
- Label each crib, cot or mat with the child's name
- It is recommended that a 46 cm (18 inches) space be provided between cots when children are sleeping
- Alternating head and feet is also recommended
- If children wear their shoes during nap time, cots should be labeled "*head end*" and "*foot end*"
- Crib mattresses, cots and mats that are designated for each child, must be cleaned and disinfected at least weekly and immediately after being soiled by a child. If the crib mattress, cot and/or mat are not designated for each child it must be cleaned and disinfected after each child uses it. Refer to the section on *Keeping your centre clean* in this chapter
- All linen should be washed at least once per week. You can use a disinfectant in the wash for all laundry that is done at your centre.
- Ensure that all sleeping cots and mats are stored in a sanitary manner. For safety reasons, this storage area should be away from play areas.
- Ensure that infants sleeping outdoors in a carriage are protected with netting and have protection from the sun. Refer to the section *Sun safety* in Chapter 4
- In an outbreak situation, all cots, mattresses, mats and linens must be cleaned and disinfected more frequently

Sensory play tables

A sensory play table is a fun activity for children but can be a source for spreading infections from one child to another. Sensory play tables that are filled with play sand, water or food for indoor play are permitted, providing the following requirements are met:

- Purchase silica-free “Play Sand” from a supplier such as a garden centre or toy store. It should state on the package that the sand has been washed and dried and is dust and silica free. Soil from places such as the garden is not permitted
- Use only dry food materials in sensory play tables. If the food material becomes wet, it must be discarded and replaced
- Use potable water (chlorinated or municipal) for water play
- Discard and replace sand, water or food contaminated with human waste
- Clean area beneath the play table daily. Discard any material that is spilled on the floor - do not collect it and return it to the sensory play table
- Discontinue the use of sensory play tables during an outbreak of communicable disease as it may be a potential source for disease transmission
- In the event of a rodent or insect infestation, discontinue the use of food in sensory play tables immediately
- Ensure that children and staff thoroughly wash their hands before and after using a sensory play table. Refer to the section on *Hand washing* in this chapter
- Ensure that sensory play tables are properly covered when not in use
- Ensure that the dry food items used in the sensory play table are kept no longer than a week and then discarded
- Ensure water play tables are emptied, cleaned and disinfected after each play session
- Ensure that all toys used in the sensory play tables are cleaned and disinfected at least weekly or more often if required. All toys used in the water play tables must be cleaned and disinfected after each use. Refer to the section on *Keeping your centre clean* in this chapter
- Clean and disinfect sensory play tables on a weekly basis or more often as required

Refer to Appendix 2 *Water Play Tables*.

Pets

Children enjoy pets and can learn many good things from observing and playing with them.. However, having pets in a child care centre is not recommended. Consider the many problems that pets can cause in child care centres (e.g., allergies, cleanliness, transmission of infections, safety – bites and scratches, allergies) before deciding to allow any animals in yours. Refer to Appendix 2 *Pets in your Centre* for more information.

If you do allow animals (such as hamsters, gerbils, rabbits, guinea pigs) into your centre on a permanent or visiting basis, take the precautions listed below:

- Ensure that animals are kept in pens or cages at all times
- Ensure that staff, not children, are responsible for cleaning cages and feeding animals
- Keep all pet supplies out of children's reach
- Reptiles and birds often carry diseases that can be spread to humans and are not to be permitted in child care centres
- Although the keeping of dogs and cats is not prohibited, it is strongly discouraged
- All pets must be up-to-date with current vaccinations - dogs and cats must be vaccinated against rabies. Refer to Appendix 2 *Fight the bite! Protecting yourself against rabies* for more information
- Separate pet cages from all eating and sleeping areas
- Do not allow pets in the outdoor play area

In the event that a child is scratched or bitten, follow the steps listed below:

- Put on disposable gloves
- Immediately wash the wound thoroughly with soap and water for several minutes. Avoid splashing the water into the eyes, nose and mouth.
- Apply an antiseptic. Refer to the section on *Medication and treatment* in Chapter 1
- Call the parents to take the child to the family doctor or to the nearest hospital
- Call York Region *Health Connection* at 1-800-361-5653 to speak to a public health inspector and report the incident immediately

Rabies

Rabies is a fatal disease caused by a virus that affects warm blooded animal, including humans. Once symptoms of rabies appear, rabies is almost always fatal in animals and humans. The rabies virus is spread by contact with saliva from an infected animal, generally from a bite, lick or scratch.

There are many ways to protect yourself and your family from rabies:

- Having pets in the child care centre is not recommended. If you allow a dog or cat to visit the child care centre, the animal must have their vaccinations up to date. Under Provincial law, dogs and cats three months of age or older are legally required to be immunized yearly against rabies
- If staff or a child are bitten, immediately wash the wound or exposed surface with soap and water, remove any clothing that may have been contaminated and to seek medical attention immediately
- Report all animal bite or scratch exposures to York Region Community and Health Services
- Teach children to stay away from all unfamiliar animals and to immediately tell an adult if they have been bitten or scratched by an animal
- If staff are travelling abroad, they should avoid contact with wild animals and be especially careful around cats and dogs in developing countries as rabies is a prominent public health concern in these countries. Stray dogs are a major source of rabies exposure

It is mandatory that all animal bites or scratches be reported to York Region Community and Health Services Department, Health Protection. Refer to Appendix 2 *Pets In Your Centre*.

Petting zoos

Animals at farms and petting zoos present the same risks as bringing pets into your centre (refer to Appendix 2: *Pets in your centre*). There are even added hazards because the animals are unknown to you. Be aware of these hazards and use caution while visiting farms or petting zoos.

If you are planning on visiting a petting zoo, take the following precautions:

- Prior to planning a visit to a petting zoo, read the pamphlet *Visiting Animals in Public Settings* in Appendix 2
- Persons at increased risk of developing a serious illness from animals include: pregnant women, infants, elderly persons, children less than five years of age, persons who are mentally impaired, other persons with weakened immune systems

- Prior to visiting a petting zoo, check with the petting zoo operator to ensure:
 - The animals are up to date with current vaccination requirements and that none of the animals are sick
 - Hand hygiene facilities are available and accessible to both children and adults
 - Adequate staff are supervising in the areas where animal contact is permitted
 - An eating area is available that is separate from the animal area
- Ensure that any staff or child wash their hands if they have touched, petted, fed or have been licked by any of the animals. Refer to *Visiting Animals in Public Settings* in Appendix 2 and the section on *Hand washing* in this chapter
- Any staff or child should wash their hands with soap and water for a minimum of 15 seconds before eating or drinking after visiting farms or petting zoos. Another option is to eat before you go on your visit
- Bring a supply of wipes and hand sanitizer to be used if hand washing sinks are not available. Wipes must be used in conjunction with hand sanitizer as the use of wipes alone does not kill germs that can cause illness.
- Use a hand sanitizer that contains between 60% and 90% alcohol. Refer to *Hand sanitizers* in Chapter 5
- After your trip to the petting zoo and upon return to your centre, please ensure that all staff and children wash their hands at the hand washing basin. Refer to *Hand washing* in this chapter
- Refer to the section on *Pets* in this chapter if a child or staff member has been bitten or scratched
- It is advised that any person experiencing any of the following symptoms up to three weeks following a visit to animals in a public setting seek medical attention: diarrhea, bloody diarrhea, stomach cramps, nausea, vomiting, fever, bloating, gas