

# Infection Control Guidelines for Community Shelters and Group Homes

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COMMUNICABLE DISEASE CONTROL



# Introduction

Infection control programs were first developed in hospitals, as a means of reducing the spread of communicable disease in acute care settings. Similar programs have since been developed in long-term care facilities, using the same basic infection control principles, applied to a different population and setting. More recently, schools and some child care centres have instituted programs addressing their particular infection control requirements. Wherever infection control measures have been introduced, their effectiveness in reducing the spread of communicable disease has been demonstrated.

Community facility programs such as shelters and group homes also need infection control guidelines. Such settings have common characteristics that can include shared living space, communal food preparation, child care, and transient resident populations with potential health issues. Staff do not generally have health care backgrounds.

These guidelines are intended to provide staff and residents of community shelters and group homes with practical information on infection control.

# Acknowledgements

This document was prepared by a working group that reports to the Infection Control Subcommittee of the Manitoba Advisory Committee on Infectious Disease.

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A document developed by APIC-Northern New Jersey, *Basic Principles of Infection Control for Homeless Shelters*, was used as a starting point. We are grateful to Edie Bien (President, APIC-Northern New Jersey) for sharing the document with us.

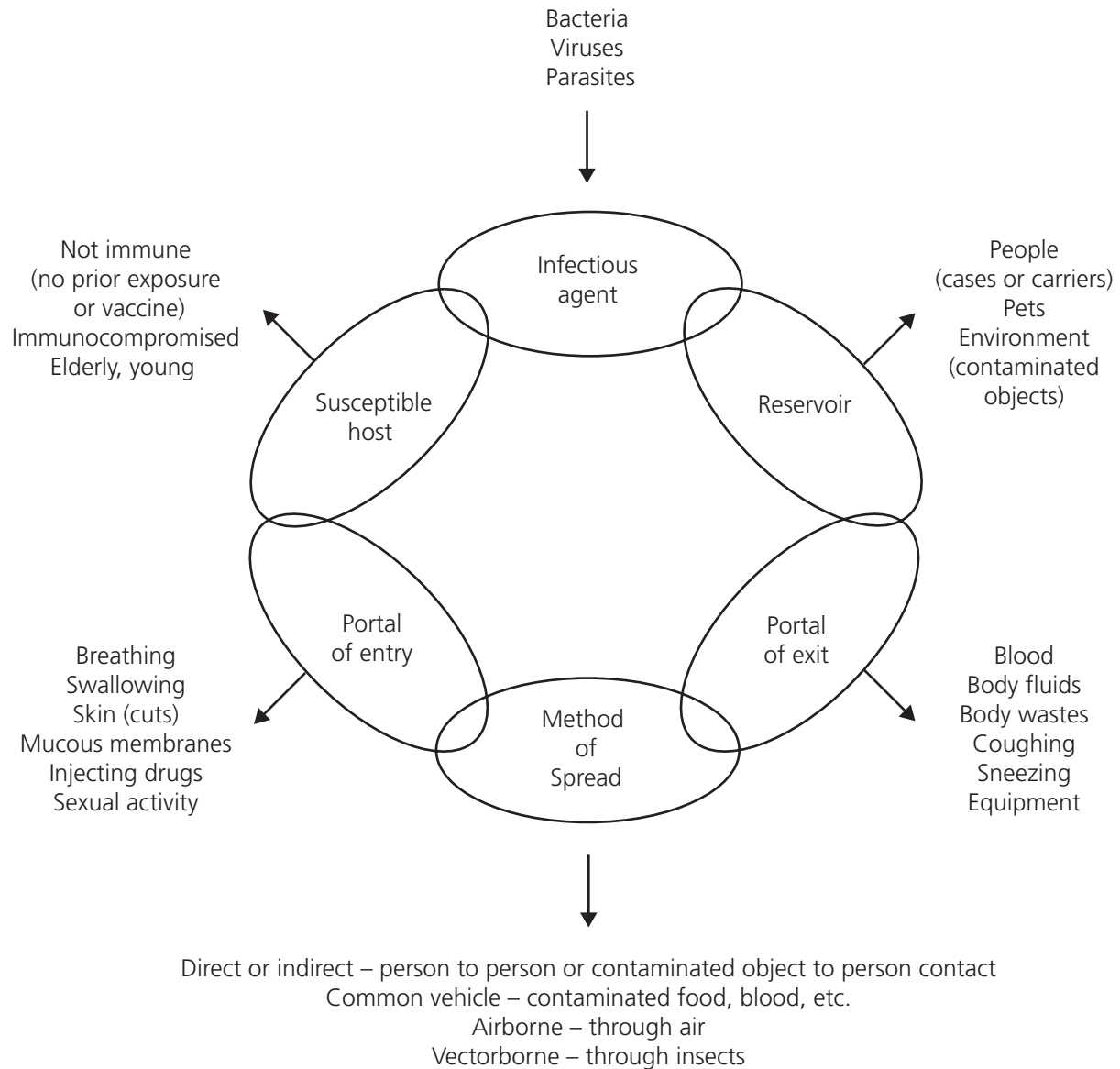
These guidelines have been approved by the Manitoba Advisory Committee on Infectious Disease (MACID).

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# The Chain of Infection



***Washing your hands (hand hygiene) is the single most effective way to reduce the spread of infection!***

# Definitions

## The Chain of Infection

Infection results from the interaction of an infectious agent with a susceptible host. The interaction occurs by one or more methods of spread within the environmental context. These inter-related factors are known as the “chain of infection.” Infection control measures target the various links in an attempt to “break the chain” and thereby prevent spread of infection.

**Infectious agent** – A germ capable of causing disease.

**Reservoir** – A place where an infectious agent can survive (although it does not necessarily multiply).

**Portal of exit** – The path by which an infectious agent leaves the reservoir.

**Method of spread** – The mechanism for transmission of an infectious agent from reservoir to susceptible host.

**Portal of entry** – The path by which an infectious agent enters the susceptible host.

**Susceptible host** – a person who lacks resistance to a particular infectious agent.

Other commonly used terms include:

**Case** – A person identified as having a particular disease.

**Carrier** – A person who harbours a particular infectious agent, but shows no signs of the disease.

**Cleaning** – The removal of all visible dust, soil and any other foreign material with detergent and water.

**Infection control** – Practices or programs intended to reduce the occurrence and spread of communicable disease.

**Infectious dose** – The number of infectious organisms required to produce disease in a susceptible host.

**Personal protective equipment** – Items such as gloves, gowns, masks or face shields designed to provide protection from exposure to potentially infectious germs.

**Sanitizing** – A process that reduces the number of disease-producing organisms on an environmental surface to a safe level.

**Hand hygiene** – Hand washing or the use of alcohol-based hand rubs.



## General Prevention Techniques

These simple infection control measures can help everyone prevent the spread of communicable disease. The techniques are not specific to any particular disease; they are good, common-sense prevention practices that should always be used.

- Most importantly, **WASH YOUR HANDS**. Perform hand hygiene.
- Maintain good personal hygiene. Do not share personal toilet articles (combs, brushes, razors, towels, etc) with anyone else.
- Do not share eating utensils or cigarettes.
- Keep your immunizations up-to-date.
- Eat a balanced diet and get plenty of rest and exercise.
- Cover your mouth when you cough or sneeze. Keep disposable tissues handy.
- Avoid touching your eyes or mouth if you are caring for someone with a cold or other infection.
- Handle food safely.
- Avoid cuts or punctures from sharp objects, such as needles, that may have been in contact with someone else's blood or body fluids. Needles that have been used by diabetics or others should be carefully disposed of in containers specifically designed for "sharps."
- Avoid unprotected sexual activity.

# Hand Hygiene

*Performing hand hygiene is the single most effective way to reduce the spread of infection.*

Use hand hygiene:

- before handling food.
- before and after eating.
- before and after cleaning a wound.
- before and after smoking.
- after handling raw food.
- after using the toilet or wiping nose.
- after contact with blood or body fluids/wastes.
- after handling soiled items or equipment (ex: after cleaning rooms or handling soiled linen).
- after removing gloves.

## Hand washing

- Either liquid soap or bar soap can be used. Liquid soap containers should not be “topped up”; instead, rinse them with hot water when empty then refill. Bar soap should be stored in racks which allow drainage of excess water (disease-producing organisms can survive in stagnant water).
- Disposable (paper) towels should be used in public washrooms. Individual cloth towels should not be shared.

## Hand washing method

- Wet hands thoroughly with comfortably warm running water.
- Apply soap, then rub your hands vigorously for 10 to 15 seconds to create a lather.
- Wash all surfaces, including the backs of your hands and between fingers.
- Rinse your hands well under running water.
- Dry your hands well with a towel.
- Turn off the taps with a towel.

*Consider posting hand washing reminder signs near all sinks.*

## Alcohol-based hand rubs

Alcohol-based products provide an acceptable alternative to soap and water. Alcohol-based hand rubs must contain a minimum of 60 per cent alcohol. This method may be used when soap and water are not readily available and hands are not visibly soiled.

## Method for alcohol-based hand rubs

- Apply a small amount (2 to 3 ml – a drop the size of a dime) of product to the palm of one hand.
- Rub hands together, covering all hand surfaces, including fingernails, web spaces, thumbs and palms.
- The product usually dries within 15 to 20 seconds. Ensure hands are completely dry before performing another task.

*NOTE: Alcohol products are flammable.*

# Guidelines for Safe Food Handling

## Sanitizing solution

*Use unscented chlorine bleach.*

- To sanitize cutting boards, surfaces etc., mix one tablespoon (15 ml) in four litres (3.5 quarts) of water.
- To sanitize dishes, dishcloths, etc., mix one teaspoon (5 ml) in four litres (3.5 quarts) of water.

## Purchasing and receiving food

- Only purchase or accept food from reliable sources.
- Take care not to allow frozen or perishable foods to be left unrefrigerated for extended periods. Do other errands before shopping for food.
- Refrigerate foods as soon as possible.
- Do not use cans which are dented, swollen, or badly rusted.
- Do not use unpasteurized milk or ungraded eggs.

## Food storage

- If repackaging foods, date and label them before putting them away.
- Always rotate stock (first in, first out).
- Label bulk food products with the date and product name.
- Avoid using products that are beyond the best-before date.
- Store raw meats or poultry on a plate, or in a container, below the other items in your refrigerator so that blood cannot drip onto anything else.
- Store food separately from cleaning products and poisons so they cannot be accidentally mistaken. Avoid repackaging cleaning products and poisons to ensure they are identifiable.
- Always refrigerate foods such as meat, dairy products, shelled eggs, etc. If left unrefrigerated, these foods allow bacteria to grow rapidly.

## Food preparation

- *Perform hand hygiene often* and always before handling food, after handling raw foods or soiled utensils, equipment or garbage.
- Avoid cross-contamination by remembering to wash and sanitize (one tablespoon/15 ml unscented chlorine bleach in four litres/3.5 quarts water) cutting boards, counter tops and utensils after each use, especially after meat and poultry.
- Ensure cutting boards have been sanitized (one tablespoon/15 ml unscented chlorine bleach in four litres/3.5 quarts water) if previously used by someone else.
- Use utensils or wash hands well when handling ready-to-eat foods.
- Do not use the same plate or utensils for raw meat and cooked meats.
- Wipe up spills immediately. Bacteria grow very quickly and spread.
- Defrost frozen foods in the refrigerator, microwave or under cold running water. Plan ahead so that you will not have to thaw meat or poultry on the counter.
- Do not thaw and then refreeze meats. Defrost as described above, cook, and then refreeze.

## Cooking and food service

- Keep hot foods hot (60°C/140°F or higher) and cold foods cold (4°C /40°F or lower).
- Use a meat thermometer to ensure meat is properly cooked.
- Cook or reheat all foods to a minimum of 74°C/165°F.
- Cook poultry to an internal temperature of 85°C/180°F.
- Ensure all ground meat and poultry are thoroughly cooked. Juices should run clear when the meat is cut.
- Prepare and cook foods as close to the meal time as possible.
- Avoid using raw eggs in ready-to-eat products such as Caesar salad and eggnog.

## Leftovers

- Perform hand hygiene before handling leftovers. Ensure all utensils and surfaces are clean.
- Wrap leftovers and refrigerate immediately. Do not leave leftovers on the counter to cool.
- Divide large quantities of leftovers into small containers so they cool more quickly.
- Date leftovers before placing them in the refrigerator and then use or freeze them soon.

*Remember: if in doubt, throw it out!*

## Facility maintenance and construction

- Floors, walls and ceilings should be nonabsorbent, smooth and easily cleanable.
- Kitchen facilities should be washed daily to remove all visible dirt and debris.
- Walls, grease vents and equipment should be kept clean and regularly washed.
- Be alert for mice or insect infestations and take immediate action if evidence exists.

## Equipment and utensils

- Utensils should be washed, rinsed and sanitized (one teaspoon/5 ml unscented chlorine bleach in four litres/3.5 quarts water) after each use.
- Counter tops and cutting boards should be washed and sanitized (one tablespoon/15 ml unscented chlorine bleach in four litres/3.5 quarts water) after each use.
- Refrigerators should be an adequate size for the volume of food stored inside and should be monitored with a thermometer.
- Throw out worn or chipped cups, plates and utensils.
- Do not reuse single-service utensils such as plastic spoons and forks.
- Store wash cloths and table sponges during the day in a pail with sanitizing solution (one teaspoon/5 ml unscented chlorine bleach in four litres/3.5 quarts water).
- Garbage containers should be durable, easily cleanable and rodent-proof. They should be covered at all times when not in use.

## Dishwashing

- When washing dishes by hand:

- Pre-scrape to remove uneaten food.
- Wash in warm water and detergent.
- Rinse dishes in clean water to remove film and soap before sanitizing.
- Sanitize dishes (one tablespoon/15 ml unscented chlorine bleach in four litres/3.5 quarts water) for at least one minute at a temperature not lower than 24°C/75°F.
- Air dry.
- Change the wash and rinse water often.
- When using an automatic dishwasher:
  - The dishwasher should reach a sanitization temperature of 80°C/180°F.
  - Purchase dishwasher heat test strips and test the dishwasher monthly.

## Personnel

- Food handlers should not smoke while preparing or serving food.
- Use a clean utensil each time for food tasting (no double dipping).
- Do not prepare food if you have sores or cuts on your hands, have a respiratory illness or gastrointestinal illness (nausea, vomiting or diarrhea).
- Wear clean clothes and preferably wear a hair restraint (ex: a hair net).
- Avoid touching your mouth or nose or wiping your hands on dish towels or aprons.
- Perform hand hygiene:
  - before and after eating;
  - before and after cleaning a wound;
  - before and after smoking;
  - after handling raw food;
  - after using the toilet or wiping nose;
  - after contact with blood or body fluids/wastes;
  - after handling soiled items or equipment (ex: after cleaning rooms or handling soiled linen); and
  - after removing gloves.

*For more information on safe food handling, contact your district public health inspector.*

# Guidelines for Environmental Cleaning

## Purpose

To minimize germs on environmental surfaces and thereby reduce the spread of infection to residents and staff.

## Principles

- Cleaning products should:
  - be selected on the basis of effectiveness, acceptability, safety and cost;
  - be appropriate to the task;
  - be diluted and used according to manufacturer's instructions;
  - be stored in a safe manner; and
  - *not be mixed* inappropriately (ex: chlorine and toilet bowl cleaner combine to form a toxic gas)
- Surfaces must not show any visible soil before they are sanitized.
- Cleaning equipment should be maintained in a clean, dry state after use. Cloths, mop heads, etc., should be changed when soiled after use.
- Personal protective equipment (ex: gloves) should be available and used appropriately.
- Garbage should be contained and disposed of by usual methods. Sharp objects (such as needles) should be placed in approved, puncture-resistant containers to prevent puncture injuries or cuts to the skin.

## Products for cleaning and sanitizing

- Cleaning with detergent and water is generally acceptable.
- Commercial household products are acceptable to sanitize environmental surfaces and should be used according to manufacturer's instructions.
- To prepare a noncommercial sanitizing solution, use unscented chlorine bleach:
  - for wiping cutting boards, surfaces, etc., mix one tablespoon (15 ml) in four litres (3.5 quarts) of water.
  - for immersing dishes, dishcloths etc., mix one tablespoon (15 ml) in four litres (3.5 quarts) of water.

## Method

- Cleaning should proceed from least to most soiled. Cleaning solutions should be changed when they appear dirty and/or after a spill cleanup.
- Cleaning primarily involves horizontal surfaces (ex: countertops, table tops, floors) and surfaces that are frequently handled (ex: door knobs, telephones, bathroom fixtures). Walls may require spot cleaning.
- Spills involving blood or body wastes should be cleaned up with disposable towels/cloths, which should be placed in a plastic bag for disposal in the regular garbage. The area involved should be cleaned with detergent and water and then sanitized with an appropriate product. Reusable gloves should be worn.
- For information about cleaning toys, see *Guidelines for Children* (page 9).

## Cleaning schedules

- Cleaning schedules should be established according to the type of surface to be cleaned and the type of soiling that occurs. For example:
  - spills – clean immediately.
  - surfaces used for food preparation or diapering – clean after each use.
  - kitchen, bathrooms, playroom – clean daily and as necessary.
  - resident rooms, living rooms, offices, appliances – clean weekly and as necessary.
  - mattresses, pillows, bedframes, bedroom furniture – clean between occupants.
  - household furniture, walls, carpets, etc – follow a rotating schedule (monthly/yearly) and as necessary.
  - toys – see *Guidelines for Children* (page 9).
  - reusable gloves – clean after each use.

Sanitizing is indicated for:

- food preparation surfaces
- diaper changing surfaces
- infant and toddler toys
- spill clean-up
- reusable gloves

# Guidelines for Laundry

## Purpose

To prevent contamination of the environment from soiled laundry, to reduce the spread of infection to residents and staff, and to provide clean laundry.

## Principles

- Personal protective attire (ex: gloves) should be available for use in sorting/handling laundry soiled with blood or other body wastes.
- Cleaning products should be:
  - selected on the basis of effectiveness, acceptability, safety and cost;
  - appropriate to the task; and
  - used according to the manufacturer's instructions.
- Appliances should be cleaned when visibly soiled.
- Donated clothing should be laundered before use/distribution.

## Method

- 1) Collection:
  - Laundry should be collected in a manner that prevents contamination of the environment. Baskets or hampers are appropriate and should be cleaned if visibly soiled. Laundry soiled with blood or body wastes should be washed as soon as possible.

- The time during which laundry can be held before washing depends on issues of odour control and stain removal rather than infection control.

### 2) Sorting:

- Sorting should be done in a way that prevents the contamination of clean laundry either by handling or by being placed too close to unwashed laundry.
- Sorting is usually done according to temperature and product requirements.
- Care should be taken to identify objects (ex: needles) that may injure individuals or damage appliances.

### 3) Washing

- The usual cycles of household washing machines are adequate. Using hot water for heavily soiled items is beneficial. Bleach will decrease the number of germs but may not be compatible with the fabric.

### 4) Drying

- Use an automatic dryer to dry clothes.

### 5) Storage

- Clean laundry should be stored in a way that prevents contamination.

# Guidelines for Children

During the course of a day, play materials and equipment are typically used by many different children. Young children commonly place objects in their mouths. Therefore, special attention must be taken to reduce the spread of germs on toys and equipment that children use.

## Sanitizing solution

- Use unscented chlorine bleach (one tablespoon/15 ml) mixed in four litres (3.5 quarts) of water. Mix fresh solution daily.

## Infant and toddler toys

- Toys that children may chew, suck on, or place in their mouths, as well as toys that are frequently handled, should be wiped with a sanitizer or cleaned in a dishwasher (if heat stable) twice weekly or more often as necessary.
- Large toys, activity counters and toy shelves should be cleaned weekly.
- Soft cuddly toys should be washable. These should be washed weekly or as necessary.

## Toys for older children

- Mouth toys (ex: musical instruments) should not be available for common use due to the challenges of properly cleaning these items.
- Toys for older children should be cleaned on a weekly basis.

## Dress-up clothes

- Dress-up clothes should be laundered weekly.
- These items should be laundered and put away during an outbreak of head lice or scabies, until the outbreak has stopped.

## Soothers and pacifiers

- If dropped, rinse under hot water before returning to the child.
- Clean *and* sanitize if the soother was inadvertently used by another child or dropped in something obviously dirty (ex: a diaper or the toilet).

## Water activities

- Restrict a child with respiratory infection, gastrointestinal illness or skin infection from participating in a communal water activity. Fill water table with fresh tap water daily.
- Empty or drain water table daily and then sanitize. Leave empty until next use.
- Sanitize water toys daily.
- Instruct all participants to perform hand hygiene before playing in the water table.
- Fill portable wading pools with fresh water immediately before use and empty immediately after.
- Ensure children wearing diapers are wearing a fresh diaper before going into the water.
- Pools visibly soiled with vomit or feces (poop) should be emptied, rinsed, sanitized and refilled with fresh water.

## Sand activities

- Keep sandboxes covered when not in use.
- Keep outdoor sandboxes free of animal feces.
- Clean and sanitize indoor sand toys daily and outdoor ones weekly.
- Discard sand visibly soiled with vomit or feces.

## Immunization

- A child's physician or public health nurse can assist in checking if the child's immunizations are up-to-date. Routine immunization of children is the best way to prevent illness caused by certain infections.



## Specific Infectious Diseases

The following chart will assist staff and residents to understand the spread (transmission) and prevention of certain diseases. However, some infected persons may have mild symptoms or even no symptoms at all, but can still spread disease. Also, many diseases begin with the same symptoms and are most infectious in the early stages. **It is important to seek medical attention if someone is ill.** Consult with a physician or your local public health nurse for further information.

### Communicable Disease Management Guidelines

These guidelines, based on those developed by The Canadian Pediatric Society, are intended to assist shelters and group homes to understand the spread and prevention of certain diseases. Note that some infected persons might have mild or no symptoms but are still able to spread an illness. Many diseases that begin with the same general symptoms (ex: common cold, chicken pox, whooping cough) are highly infectious in the early course of the illness. Consult with your local public health nurse for more information.

### Respiratory Infections

Prevention:

- Importance of good hand hygiene
- Careful disposal of soiled tissue, diapers, etc.
- Cover mouth and nose when coughing, sneezing
- Immunization if disease is vaccine-preventable

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Comments
<b>Common cold</b>	<ul style="list-style-type: none"> <li>• Person to person by sneezing, coughing</li> <li>• Indirectly via contaminated hands, objects</li> </ul>	<ul style="list-style-type: none"> <li>• Runny nose, sore throat, cough</li> </ul>	Infectious from one day before to seven days after onset
<b>Scarlet fever</b> (caused by Group A Streptococcus bacteria)	<ul style="list-style-type: none"> <li>• Person to person by sneezing, coughing</li> <li>• Rarely by indirect contact with objects</li> </ul>	<ul style="list-style-type: none"> <li>• Rash (feels like sandpaper) most often on the neck, chest, armpits, elbows, groin and thighs</li> <li>• There may be flushing of the cheeks and paleness around the mouth</li> </ul>	Infectious until 24 hours after treatment has started
<b>Strep throat</b> (caused by Group A Streptococcus bacteria)	<ul style="list-style-type: none"> <li>• Person to person</li> </ul>	<ul style="list-style-type: none"> <li>• Fever, sore throat, headache</li> <li>• Consult a physician as antibiotic treatment may be required</li> </ul>	Infectious until 24 hours after treatment has started
<b>Conjunctivitis</b> (pinkeye)	<ul style="list-style-type: none"> <li>• Person to person by direct and indirect contact with discharge from eye</li> </ul>	<ul style="list-style-type: none"> <li>• Redness, itching, pain and discharge from the eye</li> <li>• Treatment for infection is required if condition is caused by bacteria</li> </ul>	Infectious for duration of illness or until 24 hours after treatment started



Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Comments
Mononucleosis (caused by Epstein-Barr virus)	<ul style="list-style-type: none"> <li>Person to person via saliva</li> </ul>	<ul style="list-style-type: none"> <li>Fever, sore throat, enlarged lymph nodes, fatigue, weakness</li> <li>Can last for several weeks</li> <li>Any age group can get “mono” but illness most noticeable in young adults</li> </ul>	<ul style="list-style-type: none"> <li>Illness is not very infectious</li> <li>Virus may be shed for a long time after initial infection</li> </ul>
Chickenpox (varicella zoster virus)	<ul style="list-style-type: none"> <li>Person to person via respiratory secretions</li> <li>To a lesser extent from fluid in the blisters</li> </ul>	<ul style="list-style-type: none"> <li>Sudden onset of fever, malaise</li> <li>Rash with small blisters on top that become crusted and itchy</li> <li><i>Vaccine preventable</i></li> </ul>	Infectious from two days before rash and until skin lesions have crusted
Shingles (herpes zoster)	<ul style="list-style-type: none"> <li>A reactivation of the latent virus that causes chickenpox</li> <li>Spread occurs only from blister fluid</li> <li>Only occurs in those who have previously had chickenpox</li> <li>A person who has not had chicken pox can get the disease from someone else with a case of shingles</li> </ul>	<ul style="list-style-type: none"> <li>Numbness, itching, or severe pain followed by clusters of blister-like lesions in a strip-like pattern on one side of the body</li> <li>Pain can persist after the lesions heal</li> </ul>	Infectious (causes chickenpox) from vesicle fluid until all lesions healed
Cytomegalovirus (CMV)	<ul style="list-style-type: none"> <li>Person to person by direct contact with body fluids such as blood, urine or saliva</li> </ul>	<ul style="list-style-type: none"> <li>Most children have no symptoms when they become infected with CMV and most people eventually become infected</li> <li>In older children symptoms may include fever, sore throat, enlarged liver and malaise</li> <li>CMV can be passed from mother to child before birth and may cause birth defects</li> </ul>	
Meningitis (may be caused by bacteria, virus or fungus)	<ul style="list-style-type: none"> <li>Person to person by secretions from nose and throat</li> </ul>	<ul style="list-style-type: none"> <li>Sudden onset of fever, vomiting, loss of energy, headache, stiff neck and back</li> <li><i>Viral:</i> Serious but rarely fatal; symptoms last seven to 10 days; full recovery in almost all cases</li> <li><i>Bacterial:</i> Can be serious and result in death or disability if not treated promptly; close contacts must be treated with antibiotics</li> </ul>	<ul style="list-style-type: none"> <li><i>Bacterial</i> meningitis – cases are no longer infectious after 24 hours of appropriate antibiotics</li> <li><i>Viral</i> meningitis – variable</li> </ul>

<b>Disease</b>	<b>Transmission (How it is spread)</b>	<b>Symptoms</b>	<b>Infectious Period/ Comments</b>
<b>Red Measles</b> (rubeola)	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Virus present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>• Moderately high fever, cough, runny nose, inflamed eyes for one to three days before onset of rash</li> <li>• Rash begins as large red spots that join together</li> <li>• Rash starts on the face and spreads to entire body</li> <li>• Must see physician; physician must notify Public Health</li> <li>• <i>Vaccine preventable</i></li> </ul>	Infectious for two days before onset of fever and cough until four days after onset of rash
<b>German Measles</b> (rubella)	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Virus present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>• Mild fever, sore throat, swollen glands in neck</li> <li>• Rash consists of small red spots that start on scalp and face and spread rapidly over entire body</li> <li>• <i>Vaccine preventable</i></li> </ul>	Infectious for a few days before onset of rash and seven days afterwards
<b>Whooping Cough</b> (pertussis)	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Bacteria present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>• Begins with cold symptoms</li> <li>• Cough progresses to spasms that may result in vomiting</li> <li>• <i>Vaccine preventable</i></li> </ul>	<ul style="list-style-type: none"> <li>• Infectious from onset of runny nose until three weeks after onset of spasm-like cough</li> <li>• Exclude until five days after start of appropriate antibiotics or three weeks after onset of cough</li> </ul>
<b>Mumps</b>	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Virus present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>• Fever</li> <li>• Swelling of salivary glands causes cheeks and face to swell</li> <li>• <i>Vaccine preventable</i></li> </ul>	Infectious for seven days before and nine days after onset of swelling
<b>Hand, Foot and Mouth Disease</b>	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Virus present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>• May have fever, headache</li> <li>• Red spots with small blisters on top may appear especially on hands, feet and inside mouth</li> </ul>	<ul style="list-style-type: none"> <li>• Most infectious before onset of rash</li> <li>• Can be excreted in feces/stool for some time</li> </ul>
<b>RSV – Respiratory Syntitial Virus</b>	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Virus present in respiratory secretions and on contaminated objects/surfaces</li> </ul>	<ul style="list-style-type: none"> <li>• Fever, runny nose, cough and sometimes wheezing</li> <li>• Common cause of bronchiolitis and pneumonia in babies under 12 months</li> </ul>	Infectious until symptoms stop (usually eight to 15 days)
<b>Hantavirus</b>	<ul style="list-style-type: none"> <li>• Rodents shed the virus in their urine, droppings and saliva</li> <li>• The virus is transmitted to people mainly when they breathe air contaminated with the virus</li> </ul>	<ul style="list-style-type: none"> <li>• Early symptoms include fatigue, fever and muscle aches</li> <li>• May also be headaches, dizziness, chills and abdominal problems, such as nausea, vomiting, diarrhea and abdominal pain</li> <li>• Late symptoms include coughing and shortness of breath</li> </ul>	<ul style="list-style-type: none"> <li>• Cannot be transmitted from one person to another</li> <li>• Eliminate or minimize contact with rodents in your home, workplace, farm or campsite</li> </ul>

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Comments
Influenza	<ul style="list-style-type: none"> <li>Person to person</li> <li>Virus present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>Fever, chills, cough, sore throat, headache, muscle aches</li> </ul>	Infectious until symptoms stop (three to five days)
Fifth's Disease (slapped cheek)	<ul style="list-style-type: none"> <li>Person to person</li> <li>Virus present in respiratory secretions</li> </ul>	<ul style="list-style-type: none"> <li>Mild fever, flu-like symptoms</li> <li>A rash will appear one week after onset of symptoms. It looks initially like a "slapped cheek" and spreads to the rest of the body</li> </ul>	Most infectious before onset of rash

## Skin and Scalp Infections

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Exclusion
Head Lice	<ul style="list-style-type: none"> <li>Person to person</li> <li>Requires close direct contact</li> <li>To a lesser extent, spread can occur by sharing combs, brushes, headgear/hats</li> </ul>	<ul style="list-style-type: none"> <li>Presence of lice and nits in the hair</li> <li>Itchy scalp usually around the ears or nape of the neck</li> </ul>	<ul style="list-style-type: none"> <li>Infectious until treated</li> <li>Nit removal may be necessary to cure some cases</li> </ul>
Scabies	<ul style="list-style-type: none"> <li>Person to person</li> <li>Requires close direct contact</li> </ul>	<ul style="list-style-type: none"> <li>Very itchy rash that usually appears on fingers, elbows, armpits and abdomen</li> <li>Scabies requires treatment</li> </ul>	Infectious until treated
Molluscum contagiosum	<ul style="list-style-type: none"> <li>Person to person by direct contact with the lesions</li> </ul>	<ul style="list-style-type: none"> <li>Viral skin disease consisting of smooth-surfaced, firm and round papules</li> <li>Lesions on children are usually on the face, trunk, and upper area of arms/legs</li> </ul>	
Ringworm	<ul style="list-style-type: none"> <li>Direct contact with an infected person or animal</li> <li>Direct contact with objects or surfaces contaminated with the fungus</li> </ul>	<ul style="list-style-type: none"> <li>Flaky, itchy rash</li> <li>On the scalp it may leave a flaky patch of baldness</li> <li>On other areas the rash is ringlike and may itch or burn</li> </ul>	The fungus is no longer present when the lesion begins to shrink
Cold sores (Herpes simplex 1)	<ul style="list-style-type: none"> <li>Direct contact with the sores or saliva of an infected person</li> </ul>	<ul style="list-style-type: none"> <li>Fever, runny nose</li> <li>Painful sores on lips or in the mouth</li> </ul>	Infectious for one week during first infection and five days during recurrent cold sores
Impetigo	<ul style="list-style-type: none"> <li>Person to person by direct contact</li> </ul>	<ul style="list-style-type: none"> <li>Pustules or crusted rash on face or exposed parts of body (arms and/or legs)</li> <li>Requires antibiotic treatment prescribed by a physician</li> </ul>	Infectious from onset of rash until one day after start of treatment with antibiotics

## Gastrointestinal Infections

Prevention:

- Importance of good hand hygiene, especially after using the bathroom and before preparing food
- Safe storage and food handling, cooking practices

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Exclusion
<i>E. coli</i> 0157 (Hamburger disease)	<ul style="list-style-type: none"> <li>• Undercooked foods, especially ground beef</li> <li>• Bacteria may be in stool and can spread person-to-person by fecal-oral route</li> </ul>	<ul style="list-style-type: none"> <li>• Fever, diarrhea</li> <li>• May be blood in stool and cramps</li> </ul>	<ul style="list-style-type: none"> <li>• Infectious until diarrhea is gone</li> <li>• May continue to excrete germ for a period of time</li> </ul>
Cryptosporidiosis	<ul style="list-style-type: none"> <li>• Fecal-oral transmission</li> <li>• Ingestion of contaminated food or water</li> </ul>	<ul style="list-style-type: none"> <li>• Watery diarrhea and stomach ache</li> <li>• Nausea and vomiting</li> <li>• Fever</li> </ul>	Infectious as long as cysts are excreted (usually for several weeks)
Salmonella	<ul style="list-style-type: none"> <li>• Improperly prepared food, particularly eggs, poultry, beef and unpasteurized milk</li> <li>• Can also be spread person-to-person</li> </ul>	<ul style="list-style-type: none"> <li>• Diarrhea, fever</li> <li>• Occasionally blood in stool</li> </ul>	<ul style="list-style-type: none"> <li>• Infectious until diarrhea is gone</li> <li>• May continue to excrete germ for a period of time</li> </ul>
Shigella	<ul style="list-style-type: none"> <li>• Person to person</li> <li>• Contaminated food and water</li> </ul>	<ul style="list-style-type: none"> <li>• Diarrhea, fever</li> <li>• Blood and mucous in stool</li> </ul>	<ul style="list-style-type: none"> <li>• Infectious until diarrhea is gone</li> <li>• Negative stool cultures may be necessary due to highly infectious nature of germ</li> </ul>
Campylobacter	<ul style="list-style-type: none"> <li>• Undercooked chicken, pork, raw milk, contaminated water</li> <li>• Contact with infected pets</li> </ul>	<ul style="list-style-type: none"> <li>• Diarrhea, fever</li> </ul>	<ul style="list-style-type: none"> <li>• Infectious until diarrhea is gone</li> <li>• May continue to excrete germ for a period of time</li> </ul>
<i>Giardia</i> (beaver fever)	<ul style="list-style-type: none"> <li>• Parasite in stool</li> <li>• Person to person</li> <li>• Ingestion of feces-contaminated water</li> </ul>	<ul style="list-style-type: none"> <li>• Diarrhea, cramps, excessive gas</li> <li>• Do not drink water from unfiltered lakes and streams without treating it appropriately</li> </ul>	<ul style="list-style-type: none"> <li>• Infectious until diarrhea is gone</li> <li>• May require treatment</li> </ul>
Hepatitis A	<ul style="list-style-type: none"> <li>• Virus in stool</li> <li>• Person to person (fecal-oral)</li> <li>• Also from contaminated food and water</li> </ul>	<ul style="list-style-type: none"> <li>• Fever, loss of appetite, nausea, vomiting and jaundice</li> <li>• Children may have no symptoms</li> <li>• Immune globulin may be given to close contacts of cases</li> </ul>	Infectious for one week after onset of jaundice
Rotavirus	<ul style="list-style-type: none"> <li>• Person to person</li> </ul>	<ul style="list-style-type: none"> <li>• Fever and vomiting followed by watery diarrhea</li> </ul>	Infectious until diarrhea is gone

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Exclusion
Pinworms	<ul style="list-style-type: none"> <li>Eggs of the parasite (worm) are spread from person-to-person by contaminated hands</li> <li>Eggs can survive for several weeks outside the body</li> </ul>	<ul style="list-style-type: none"> <li>Itching around the anus or vagina</li> <li>Many children have no symptoms</li> <li>Requires medication prescribed by a physician</li> </ul>	Infectious until treated

## Sexually Transmitted Diseases

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Exclusion
Chlamydia	<ul style="list-style-type: none"> <li>Sexual contact with an infected partner</li> </ul>	<ul style="list-style-type: none"> <li><i>Females:</i> Discharge, itching, difficulty urinating, pelvic pain (more than 70% may not have symptoms)</li> <li><i>Males:</i> Discharge, itching, difficulty urinating, (more than 50% may not have symptoms)</li> </ul>	Infectious until treated with Azithromycin (an antibiotic), one gram given immediately
Gonorrhea	<ul style="list-style-type: none"> <li>Sexual contact with an infected partner</li> </ul>	<ul style="list-style-type: none"> <li>Same symptoms as chlamydia, but more noticeable and pronounced</li> <li>More than 50% of infected persons may have no symptoms at all</li> </ul>	Infectious until treated with appropriate antibiotics given immediately

## Bloodborne

Disease	Transmission (How it is spread)	Symptoms	Infectious Period/ Exclusion
HIV	<ul style="list-style-type: none"> <li>By contact with infected blood (sharing needles, blood transfusions)</li> <li>Unprotected sexual intercourse with infected person</li> <li>Mother to baby before or during birth</li> </ul>	<ul style="list-style-type: none"> <li>Failure to gain weight, diarrhea, persistent infections, pneumonia</li> </ul>	May be infectious for life
Hepatitis B	<ul style="list-style-type: none"> <li>Contact with infected blood (sharing needles, blood transfusions)</li> <li>Unprotected sexual intercourse with infected person</li> <li>From infected mother to baby before or during birth</li> </ul>	<ul style="list-style-type: none"> <li>May show no symptoms</li> <li>May cause liver disease</li> <li><i>Vaccine preventable</i></li> </ul>	May be infectious for life

<b>Disease</b>	<b>Transmission (How it is spread)</b>	<b>Symptoms</b>	<b>Infectious Period/ Exclusion</b>
Hepatitis C	<ul style="list-style-type: none"> <li>• Contact with infected blood (sharing needles, blood transfusions)</li> </ul>	<ul style="list-style-type: none"> <li>• May show no symptoms</li> <li>• May cause liver disease</li> </ul>	May be infectious for life

## Vector Borne

<b>Disease</b>	<b>Transmission (How it is spread)</b>	<b>Symptoms</b>	<b>Infectious Period/ Exclusion</b>
West Nile Virus	<ul style="list-style-type: none"> <li>• Main route of infection is through the bite of an infected mosquito</li> <li>• Mosquitoes become infected when they bite infected birds, which may circulate the virus in their blood for a few days</li> </ul>	<ul style="list-style-type: none"> <li>• Fever, headache, fatigue, body aches</li> <li>• Occasionally a skin rash on the trunk of the body and swollen lymph glands</li> <li>• Symptoms of severe infection include headache, high fever, neck stiffness, stupor, disorientation, coma, tremors, convulsions, muscle weakness and paralysis</li> </ul>	Preventive measures: <ul style="list-style-type: none"> <li>• Protect yourself from mosquito bites</li> <li>• Reduce the number of mosquitoes in areas outdoors where you work or play by draining sources of standing water</li> </ul>

## References and Resources

- APIC – Northern New Jersey, *Basic Principles of Infection Control for Homeless Shelters*.
- Manitoba Family Services, *Infection Control Guidelines for Day Care Facilities*.
- Canadian Pediatric Society, *Well Beings: A Guide to Promote the Physical Health, Safety and Emotional Well-Being of Children in Child Care Centres and Family Day Care Homes*, Vol. I, Vol. II, 1992.
- Canadian Pediatric Society, *Your Child's Best Shot: A Parent's Guide to Vaccination*, 2nd Edition, 2002.

### Local Health Unit

Phone Number: \_\_\_\_\_

Public Health Nurse: \_\_\_\_\_

Medical Officer of Health: \_\_\_\_\_

### Local Environment Office

Phone Number: \_\_\_\_\_

Public Health Inspector: \_\_\_\_\_

