INFECTION/OUTBREAK CONTROL
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OTHER RESOURCES

❖ Outbreak Control Package for Day Nurseries
INFECTION CONTROL

Statutory Authority

Health Protection and Promotion Act, R.S.O., 1990, c. H.7, s. 5, and s. 22

Ontario Public Health Standards 2008

Specification of Reportable Diseases, Ontario Regulation 559/91, under the authority of the Health Protection and Promotion Act.

Introduction

The number of children attending day nurseries has risen dramatically in the last decade. So as expected, the occurrence of infections seen in children attending day cares has also increased. Children attending day nurseries are at a higher risk of acquiring an infectious disease when compared to children who stay at home. While it is unrealistic to expect that all infections can be prevented in day nurseries, proper infection control practices will reduce the number of children infected, the frequency and the severity of infection.

This chapter will address factors affecting the rates of infection and how infections are spread in a day nursery. Some basic infection control strategies discussed include appropriate hand hygiene practices, diaper changing and toileting procedures, routine practices, handling of sharps, and toothbrushing. It is important to realize that the most effective method in preventing the spread of infections is to practice frequent hand hygiene.

Goal

To reduce the transmission of infectious diseases in day nurseries.

Objectives

To promote the health and well-being of children attending day nurseries
To respond to the needs of the day nursery regarding infection control issues
To investigate suspect outbreaks of illness in the day nursery
Spread of Infections

Three factors must be present for an infection to occur. These are:

1) Infectious agent (i.e. bacteria, virus, fungi)
2) Host (i.e. person)
3) Mode of transmission, method of spread (i.e. contaminated hands)

To reduce the spread on infection in the centre, one must eliminate the infectious agent and/or the mode of transmission. Effective infection control procedures such as proper hand hygiene, diaper changing, cleaning and disinfection of surfaces, exclusion of ill children and staff will reduce the spread of infection in the day nursery.

1) Infectious Agents
   - types of microorganisms include bacteria, viruses, fungi, protozoa, prions, etc.
   - bacteria and viruses are responsible for enteric and respiratory illnesses, which will be referred to as germs for the purpose of this chapter, unless otherwise specified
   - germs are too small to be seen by the naked eye
   - not all germs cause illness
   - antibiotics are only effective against bacteria
   - sometimes only a few germs are required to cause illness
   - some germs can survive for hours, days and even weeks on surfaces

2) Host
   - the host can be a child, staff or any person in the centre
   - the host can spread infectious germs without showing signs and symptoms of illness
   - immunization is an important method for preventing certain illnesses
   - a previous infection may offer future protection to the host when they are exposed to the same infectious agent (natural immunity)

3) Methods of Spread (Modes of Transmission)
   Germs can be spread through:
   - direct contact with an infected person (i.e. skin infections can spread by skin to skin contact)
   - contact with a contaminated surface (i.e. germs that cause diarrhea are found in stool)
   - the air (i.e. coughing, sneezing)
   - eating contaminated food and drinking unsafe water (i.e. improperly refrigerated foods)
   - bites from infected insects or animals
Note: Pathogens are microorganisms that are capable of causing illnesses in humans. For the purpose of this section, pathogens will simply be referred to as germs.

Germs that are spread through stool can cause enteric illnesses with typical symptoms of diarrhea, abdominal cramps, nausea, etc. When personal hygiene is not good, stool may contaminate hands, food, water, surrounding objects and surfaces. Germs carried in stool may then enter the body through the mouth, such as when children place contaminated fingers or objects into their mouths or when children eat food contaminated with germs found in stool.

Some germs have the ability to survive on surfaces and objects for a period of time, for example, rotavirus, a common cause of diarrhea in children, can survive for more than 10 days on surfaces, while hepatitis A can survive for up to 2 weeks on surfaces. Contaminated hands, sink taps, toys and furniture can all play a role in spreading infection in day nurseries.

Germs that are spread through saliva and secretions of the nose can cause respiratory tract infections (i.e. common cold, influenza, croup, strep throat, etc.). These germs are spread when people cough, sneeze or have runny noses, the germs can then be inhaled and/or land in a person’s eyes or mouth. Although germs that cause respiratory infections are primarily spread through the inhalation of germs, it may also be spread through indirect contact with the environment.

Germs that cause respiratory illnesses can survive on objects and surfaces for long periods of time. For example, the influenza virus can survive 24 to 48 hours on objects, 8 to 12 hours on cloth, paper and tissues, and on hands for up to 5 minutes after transfer from an environmental surface.

Infections that are spread through blood generally do not occur in day nurseries, however, since any person may carry a blood borne infection (i.e. hepatitis B, HIV) without showing signs or symptoms of illness, precautions should always be taken by staff and children when there is the potential for exposure to blood. Practicing proper hand hygiene is the most effective way to prevent the spread of infections.
Factors Affecting Rates of Infection in Day Nurseries

- Age is an important factor that affects infection rates. Young children (especially infants and toddlers) are more affected by illnesses than older children because their resistance to disease is less developed.
- Children in diapers spread illnesses much more readily than older children.
- Younger children are in close or direct contact with caregivers and each other.
- Young children are unaware and/or still learning proper personal hygiene habits.
- Infants and toddlers tend to explore their environment with their mouths.
- Large numbers of children from different families spending many hours together in one place are factors that increase the opportunity for the introduction of a variety of infectious agents.

Children and adults can be infectious before signs and symptoms of illness appear hence it is very important to practice good infection control practices at all times. Strict adherence to appropriate hand hygiene practices, diapering and toileting routines, cleaning and disinfecting of toys/equipment will help to minimize the spread of infectious organisms in day nurseries.

Infection Control Program

Day nurseries need to have an infection control program in place to help reduce the number of infections in the centre. It is also very important that all aspects of the program be followed as closely as possible which can only be accomplished through adequately trained staff. An infection control program should contain the following components:

1. Written Policies
2. Surveillance and Monitoring
3. Communication, with parents and local Health Department
4. Immunization
5. Hand Hygiene
6. Proper diaper changing and toileting procedures
7. Other general hygienic practices
8. Housekeeping-cleaning, sanitizing or disinfection
9. Food Safety
10. Animal Control
11. Education (training and monitoring)

1. Written Policies

Important health information for each child needs to be recorded along with policies and procedures of the day nursery. All licensed day nurseries should have written policies regarding the reporting, exposure,
and management of infectious diseases. The written policies should include the required reporting of cases and outbreaks of reportable diseases to the Health Department, management of infectious diseases, including the exclusion of ill children, staff, parents/guardians and/or volunteers, and communication with parents/guardians regarding infectious diseases. The written policies for staff, parents/guardians and/or volunteers should be consistent with the policies for the children attending the day nursery. In general, anyone experiencing symptoms of illness such as diarrhea, vomiting, fever, persistent cough or flu-like symptoms, should be excluded from the day nursery. During an outbreak, the day nursery should consult with the Health Department regarding exclusion requirements. The day nursery’s policies and procedures should be reviewed at least once per year and revised as necessary. For further information on reporting of specific diseases and exclusion requirements, please refer to the Durham Region Health Department “Guidelines For Infectious Disease Reporting & Exclusion” flip chart located in this manual.

2. Surveillance and Monitoring

The day nursery staff should be observing the health of each child on a daily basis. Staff should be looking for changes in a child’s behaviour or appearance along with specific signs of illness, such as fever, difficulty breathing, runny nose, coughing, vomiting and diarrhea. Information regarding any child exhibiting signs and symptoms of enteric or respiratory illness should be promptly recorded and appropriate action be taken. Such information can be recorded using the Health Department’s Day Nursery Routine Illness Surveillance Form (DUHEV-238). Recording children’s symptoms of illness accurately on a daily recording form serves two main purposes:

a) A clear picture of the normal occurrence of illness in the day nursery can be obtained. This is known as a baseline incidence which can vary for each facility.

b) An increased level of enteric or respiratory illness above the baseline incidence will be more apparent or noticeable which could indicate an outbreak is occurring.

When it becomes apparent that there is a sudden and/or unusual increase in the number of children or staff exhibiting similar enteric or respiratory symptoms in a relatively short time, it is likely that an outbreak is occurring. Outbreaks are considered “Reportable Diseases” and as such are required to be reported to the local Health Department immediately.
3. Communication

Parents should be notified of the importance of keeping the day nursery staff informed about any symptoms of illness their child might be experiencing including whether the child has been exposed to someone with chicken pox, strep throat, measles or whooping cough. Children experiencing enteric or respiratory symptoms should be kept at home especially if the child is unable to participate in the regular activities at the centre.

4. Immunization

Public Health Nurses are responsible for ensuring children attending day nurseries have received their required immunizations. Please refer to the Immunization Section in this manual for more information.

5. Hand Hygiene

Contaminated hands are an important source of transmission of communicable illnesses but appropriate hand hygiene practices can reduce the number of harmful germs present on hands to a safe level. As previously mentioned, appropriate hand hygiene, practiced frequently is the most important strategy in controlling the spread of illnesses in day nurseries. Appropriate hand hygiene involves either handwashing or the use of an alcohol-based hand rub as long as hands are not visibly soiled.

Handwashing sinks should always be stocked with dispensable liquid soap and paper towels or clean single use towels. Designated handwashing sinks shall be located in each food preparation area, diapering change area and toileting area and shall only be used for the purpose of handwashing. Staff and children need to pay special attention to when they should wash their hands, how to effectively wash hands and how often hands should be washed. Posting a handwashing procedure poster at each designated handwashing sink can be helpful in reminding staff and children how to wash hands. Effective handwashing involves the following steps:

1. Wet hands using warm water
2. Apply dispensable soap to hands
3. Rub hands vigorously together including the backs of hands, between fingers and around thumbs and fingernails for at least 15 seconds
4. Rinse hands thoroughly
5. Use paper towel or clean towel to dry hands
6. Turn off taps using towel

The use of waterless hand antiseptic gels are as effective as handwashing provided hands are not visually dirty or have not been in contact with
blood or body substances. In instances where a day nursery is out on a class trip and handwashing facilities are not readily available, the Health Department recommends the use of wet-wipes prior to the application of a hand sanitizer product. It is recommended that hand rubs contain 62-90% isopropyl alcohol and/or ethyl alcohol. When using hand antiseptic products, manufacturer instructions should always be followed. In general, place 3-5ml of product onto hands, rub hands together covering all surfaces of hands and continue to rub hands until the product has completely evaporated.

6. Diaper Changing and Toileting Procedures

Research studies show that the presence of children in diapers is closely related to increased rates of enteric infections occurring in these facilities. In addition, younger children promote the spread of infection through their normal behaviour such as mouthing things, close and frequent contact with each other and not being aware of the proper toileting and handwashing procedures. Staff must provide hands-on care for each child while handling other children, which increase the risk of transmitting harmful germs. Posting diaper changing procedures at the diapering table will help remind staff of the important steps to remember when changing diapers. Diaper changing must be carried out in a manner that prevents the spread of germs. Diaper changing areas should also be physically separated from food preparation and eating areas decreasing the likelihood of food becoming contaminated. Do not rinse diapers, although a formed stool that is not stuck to the diaper can be gently lowered into the toilet for flushing. Single use gloves should be used to change diapers containing stool, especially if diarrhea is suspected, however, glove use does not replace the need to wash hands after each diaper change. The use of cloth diapers requires special provisions to minimize the spread of fecal material. Please contact your area Public Health Inspector (PHI) to discuss policies that need to be implemented when cloth diapers are used in the day nursery.

7. Other Hygienic Practices

The spread of infectious germs can be further reduced when the following (although not limited to) policies and procedures are implemented:

- Open cuts/wounds should be covered
- Contagious rashes/sores (i.e. ringworm) need to be covered and inaccessible to the child (unable to itch area)
- Disposable facial tissues should be used to cover nose and mouth when sneezing or coughing and for blowing noses, discard immediately after use
- No sharing of personal items such as bedding, clothing, combs/brushes, toothbrushes, etc.
- Single use paper towels, disposed of after each use, or the use of reusable towels/cloths, laundered after each use

8. **Housekeeping-Cleaning and Disinfection of Surfaces**

Routine cleaning and disinfection of surfaces is important to reduce the spread of infectious germs thereby keeping children and staff healthy for two main reasons:

I. Germs that cause illnesses in humans can survive for hours, days and even weeks on surfaces, so germs present on a surface can infect someone days after it had been on the surface.

II. Sometimes only a few number of germs need to be present to cause illness in someone.

Cleaning physically removes dirt from surfaces while disinfection reduces the level of harmful germs present to a safe level. In most situations, cleaning of a surface must precede disinfection of the surface. Manufacturing instructions for the use of chemicals used during cleaning and disinfection (including sanitizing) should be followed closely to ensure products are being used effectively and does not present a health hazard to the user. In the absence of an approved disinfectant, 5.25% household bleach properly diluted can be used to sanitize/disinfect non-porous surfaces.

Chemicals used on potential food contact surfaces or surfaces that may enter children’s mouths shall be ‘food contact safe’, otherwise, a final rinse after disinfection will be required to remove chemical residues. Chemicals should always be adequately labelled and stored safely, out of reach of children. A cleaning and sanitizing schedule posted for staff will help to organize who is responsible for what and when surfaces need to be cleaned and disinfected.

9. **Food and Water Safety**

Day nurseries providing food to children/staff (including snacks and water) shall comply with the Food Premises Regulation and any relevant water safety policies. Refer to clear tabbed section in this manual entitled Safe Environment for more details regarding food and water safety requirements.

10. **Animal Control**

In general, pets in day nurseries are not recommended. Pets can expose children and staff to infections, injuries and allergens. Children and staff
may not initially be allergic to pets, but they can develop allergies with continued exposure. The time needed for cleaning and maintenance, including the costs involved with caring for a pet, are additional reasons why pets are strongly discouraged in these facilities.

Pets such as monkeys, lizards, snakes, turtles, newts, frogs, toads, birds as well as wild and/or stray animals should never be present at day nurseries. Animals that are aggressive, unfriendly or not well known by staff should not be approached by children or staff and definitely not allowed to visit. Refer to the Health Department’s poster “Pets & Day Nurseries” (DUHEV-236) for further information.

The Health Department is responsible for following up on possible human exposure to rabies. The rabies virus is carried in the saliva of a rabid animal and can be transmitted to a human through a biting or scratching incident. Humans exposed to the rabies virus and not treated will die, so it is very important that all warm blooded animal (wild/domestic) bites and scratches involving a human are promptly reported to the local health department. **All animal biting/scratching incidents occurring during the day nursery’s hours of operation and involving a child/staff member shall be reported to the Health Department immediately.** Refer to the section Safe Environments in this manual for more information on rabies.

Petting zoos can be a source of illness to young children. Illnesses can be transmitted to children/staff by touching animals and not practicing adequate hand hygiene, through animal scratches and bites, through contact with animal saliva/mucous, through contact with animal feces and fecal dust, and being nearby when an animal coughs/sneezes. Ensure children/staff do not eat food or take toys into the area where animals are located and everyone’s hands are washed thoroughly after visiting the animals (especially prior to eating). For more information please refer to the Health Department pamphlet “Visiting Animals in Public Settings” (DUHEV-394).

11. **Education**

The purpose of education is to increase one’s understanding and create a change in one’s behaviour. Day nursery staff (including part-time and volunteer staff) needs to understand the Infection Control program, including why it is needed, how it is accomplished and what their role is regarding illness prevention. Staff should also have a clear understanding of the communicable disease process, how disease is caused, spread and prevented which will make the job of actually preventing illnesses easier. Included in this manual is a section entitled Infectious Diseases that may assist staff in the identification and control of common communicable
diseases found in day nurseries. Regular in-service training for staff is required to ensure information pertaining to policies and procedures are well understood and any new information is relayed to the staff in an effective manner.

**Note:** The Health Department can provide training sessions for day nursery staff on a variety of infection control topics including a basic infection control presentation. For more information regarding this presentation and other topics of interest, please contact the Environmental Help Line at 905-723-3818 or 1-888-777-9613
OUTBREAK CONTROL

Statutory Authority

*Health Protection and Promotion Act*, R.S.O., 1990, c. H.7, s. 5, and s. 22

*Ontario Public Health Standards 2008*

Specification of Reportable Diseases, Ontario Regulation 559/91, under the authority of the *Health Protection and Promotion Act*.

Legislative Role

All day nurseries are required to report a suspected enteric or respiratory outbreak to their local Health Department.

Introduction

The Canadian Paediatric Society states “**Children enrolled in child care programs tend to get more infections in early childhood than children cared for at home. Not only are they exposed to more new germs, but the risk of infection is increased by common interactions**”¹. Children in day nurseries typically experience a greater number of illnesses due to close exposure to a larger number of children from different families that spend many hours of the day together in a specific room. In order to reduce the number of infections in children at the centre, strict adherence to infection control policies and procedures must be maintained. However, even with proper policies and procedures in place, outbreaks of illnesses may still occur. Early recognition and reporting of outbreaks will help to further decrease the number of children and staff affected as well as shorten the duration of the outbreak. Day nursery staff are not expected to take on the responsibilities of physicians or nurses but the following information will help staff to take the appropriate action when the initial signs and symptoms of illness appear in the children.

References:


Goal

To control and prevent the occurrence of other cases in the day nursery

Objectives

- To respond to suspect enteric and respiratory outbreaks occurring in a day nursery as soon as possible
To determine the extent of the outbreak in terms of time, place and person
To identify the causative agent, the source(s) of the agent, the method of spread of the agent and contributing factor(s)
To implement infection control measures

Background

Enteric illnesses are the same as gastrointestinal diseases. In general, signs and symptoms of enteric illnesses include diarrhea, which may be accompanied by abdominal cramps/stomach aches, fever, nausea, vomiting, loss of appetite, bloody and/or mucous stools. Diarrhea often represents a change in the child’s normal stool to a watery consistency and can be accompanied by a foul odor. It is important to determine whether the diarrhea may be a reaction to medication, change in diet or other reasons that may not be linked to an enteric illness.

A respiratory infection usually starts with the onset of a fever and may be accompanied with one or more of the following: runny nose, cough, nasal congestion, sore throat, chills, muscle aches, malaise, poor appetite, and young children may also have diarrhea.

Daily surveillance of children and daily recording of any enteric and/or respiratory symptoms will give a clear picture of the baseline incidence in the centre. The clustering of cases characterized by common symptoms indicated by an increase in the level of illness above the baseline incidence in a relatively short time will suggest an enteric or respiratory outbreak may be occurring. **This is the time that the local Health Department should be notified of the suspect outbreak.** Early reporting of the suspect outbreak along with the strict implementation of specific infection control measures will decrease the number of children/staff that could be affected and will also reduce the duration of the outbreak.

Once the Health Department is notified of the suspect outbreak, the investigating Public Health Inspector (Communicable Disease Program) will consider initiating an outbreak investigation. Should an outbreak investigation be initiated, close communication between the day nursery and the investigating Public Health Inspector will be required to ensure all activities are carried out as efficiently and effectively as possible.

Identifying an Outbreak

A suspect outbreak exists when there is an increase in the baseline incidence indicating a higher number of children or staff who are experiencing similar symptoms of illness than expected. To determine whether a suspect outbreak exists, you should:

- Review your illness surveillance recording forms daily
Identify similar symptoms of illness among the symptomatic children/staff
Check recent child/staff absenteeism records
Contact your local Health Department as soon as possible and discuss with the area Public Health Inspector the unusual clustering of symptoms. The designated Public Health Inspector will work with the centre in response to the outbreak. It is the day nursery’s responsibility to recognize, record and report outbreaks to the Health Department at 905-723-3818 or 1-888-777-9613.

Health Department’s Role in Outbreak Control

The Health Department has three major roles related to the investigation of an enteric or respiratory outbreak in day nurseries.

1. **Legislated Role**

   The Health Department’s Medical Officer of Health and Public Health Inspectors have the authority to require:
   - the exclusion of ill children/staff from the centre
   - children/staff to submit samples (i.e. stool, vomitus)
   - the facility to follow specific outbreak control measures
   - the facility to close (in extreme conditions)

2. **Consulting Role**

   The Health Department will provide advice to the day nurseries regarding:
   - signs and symptoms of enteric and respiratory illnesses
   - information about infectious microorganisms (pathogens) capable of causing enteric and respiratory illnesses
   - how to reduce the spread of infectious microorganisms (infection control measure)
   - how to obtain and store required specimen sample(s)

3. **Coordinating Role**

   The Health Department will help to coordinate the necessary steps to bring the outbreak under control by:
   - identifying the type and number of specimen samples needed
   - delivering enteric outbreak kits to the centre and possibly to ill staff and children at home
   - delivering nasopharyngeal swabs to designated physicians (for respiratory outbreaks) as required
   - ensuring specimen samples collected are transported to the Public Health Laboratory in a timely manner
   - informing the centre of laboratory results for specimens submitted
• recommending and/or ensuring the implementation of specific outbreak infection control measures

Day Nursery’s Role in Outbreak Control

All day nurseries are legally responsible for reporting suspect enteric or respiratory outbreaks to their local Health Department. Once the suspect outbreak has been reported, the centre is required to:

• follow all Health Department recommendations and requirements
• assist the investigating Public Health Inspector by collecting the requested specimen samples and providing the necessary information pertaining to children and staff
• immediately report changes or provide updated information about the outbreak to the investigating Public Health Inspector including daily reports about new and resolved cases. Refer to the Day Nursery Outbreak Line Listing Form (DUHEV-303) contained in the Outbreak Control Package for Day Nurseries
• communicate necessary information to the families of children attending the centre
• post signage at all entrances to the facility of the outbreak, eg. Health Department “STOP” sign (DUHEV-417)

Outbreak Control Package for Day Nurseries

An “Outbreak Control Package for Day Nurseries” has been included in this manual to assist in the effective and consistent management of enteric and respiratory outbreaks in day nurseries. The investigating Public Health Inspector will complete the package with the assistance of the owner/operator of the centre, although some sections of the package are for use by the centre.

Outbreak control in day nurseries requires a coordinated effort by everyone involved. The implementation of common sense outbreak infection control measures such as adequate hand hygiene, exclusion of symptomatic children and staff, etc. will help to reduce the impact of the outbreak in the centre. Without a firm, consistent and coordinated approach to the principles of outbreak control among this ‘high risk’ group, communicable disease outbreaks will continue in our centres unabated.
OUTBREAK CONTROL PACKAGE FOR DAY NURSERIES

DAY NURSERY: __________________________________________

ADDRESS: __________________________________________

_____________________________________________________

PHONE #:__________________  FAX #:__________________

DAY NURSERY CONTACT: ____________________  POSITION:__________________

Outbreak Notification

OUTBREAK NOTIFICATION DATE: ________________  TIME: ___________ am/pm

OUTBREAK REPORTED BY: ________________________  POSITION:__________________

NOTIFICATION RECEIVED BY: ______________________

INVESTIGATING PUBLIC HEALTH INSPECTOR: ______________________

DAY NURSERY AREA PHI NOTIFIED: _______  yes  _______  no

Initial Outbreak Management Meeting

Initial Meeting Date: ________________  Time: ___________  am/pm

Location: __________________________________________

Note: Ensure all appropriate people are notified of the date and time of the outbreak management meeting.

An outbreak is defined as two or more linked cases with clinically compatible signs and symptoms of an infection OR two or more laboratory confirmed cases OR common symptoms of illness among the children and staff that is above the norm in the Centre.

Part I – To be completed at the onset of the suspect outbreak.

Collection of information on this form is under the authority of the Health Protection and Promotion Act., R.S.O. 1990, c.H.7. Sec.5. for the purpose of enforcing the Act and Regulations thereunder. For information on collection practices, contact the Director, Environmental Health Division, Durham Region Health Department, (905) 723-3818.
**PART I – OUTBREAK SUMMARY**

### Initial Outbreak Summary

*Note: Staff includes part-time staff and volunteers at the centre*

<table>
<thead>
<tr>
<th>Date of the first case:</th>
<th>Time: am/pm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Date of the most recent case:</td>
<td>Time: am/pm</td>
</tr>
</tbody>
</table>

**Number of Persons currently ill:**

- Children: ______ 
- Staff: ______

**Duration of illness:**

- _____ hours 
- _____days 
- _____unknown

**Children Hospitalized:**

- _____yes 
- _____no 
- _____unknown

**Staff Hospitalized:**

- _____yes 
- _____no 
- _____unknown

**Laboratory Results:**

- _____yes 
- _____no 
- _____unknown/pending

If yes, results: __________________

**Name of Persons:** ____________________________

**Date Specimen(s) Submitted:** ___________

---

### Outbreak Case Definition

**List of Symptoms from the most to the least prevalent:**

- a) __________________________
- b) __________________________
- c) __________________________
- d) __________________________
- e) __________________________
- f) __________________________

Based upon the above symptoms, the **outbreak case definition** is:

**Any person who is at risk or attending the Day Nursery and develops or is experiencing one or more of the following symptoms over a ________ day period of time starting from ________ .**

**Diarrhea:** ________or more loose or watery stools within a ________ hour period.

**Notes:**

- a) The outbreak case definition may change as new information is gathered.
- b) An outbreak case is identified when individual(s) are clinically linked to a laboratory confirmed case.
- c) An outbreak case becomes confirmed when a causative organism is isolated from the case’s stool sample, mucous sample or other samples.
## Population at Risk

<table>
<thead>
<tr>
<th></th>
<th>TOTAL STAFF AT RISK</th>
<th>NUMBER OF ILL STAFF</th>
<th>TOTAL CHILDREN AT RISK</th>
<th>NUMBER OF ILL CHILDREN</th>
</tr>
</thead>
<tbody>
<tr>
<td>TOTAL</td>
<td></td>
<td></td>
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</tbody>
</table>

*Note: Staff includes part-time staff and volunteers at the centre*

## How to Use the Day Nursery Outbreak Line Listing Form

The outbreak line listing form is a tool that allows the Health Dept. to evaluate the progress of the outbreak, including the number of new cases that occur each day.

- **Please list staff and children on separate line lists using the outbreak case definition.**
  - Note: Staff includes part-time staff and volunteers at the centre

- Record those that may have been part of the outbreak and are not present at the centre.

- Record those that may have been part of the outbreak and admitted to a hospital.

- Do not list children and staff experiencing symptoms that are not included in the case definition.

- Do not record the same ill child or staff member more than once on the line listing.

- The line listing shall be updated **daily**.

- Each day provide an updated **DAY NURSERY OUTBREAK LINE LISTING FORM** to the investigating Public Health Inspector at the Health Department either by phone or fax (905) 666-1833. The Day Nursery Outbreak Line Listing Form can be found at the back of this package.
Outbreak Control Measures (to be posted)

The following infection control measures are to be implemented immediately until further notice. √ CHECK THE APPLICABLE BOXES.

☐ Isolate ill children until removed from the day nursery by parents/guardians.

☐ Ill staff should not be present at the day nursery.

☐ Cohort ill children away from healthy children when necessary within the day nursery.

☐ Exclude ill children until the individual is ___ hours symptom-free or as directed by the Health Department.

☐ Exclude ill staff until the individual is ___ hours symptom-free or as directed by the Health Department.

☐ Increase the frequency of hand hygiene by everyone in the day nursery. Proper handwashing procedures must be followed (refer to the Health Department’s 6-step “Handwashing” Poster). Provide appropriate hand sanitizers in each room, stored away from children when not in use. It is recommended that 70-90% alcohol based hand rub is used during enteric outbreaks.

☐ Gloves must be worn if contact with blood, feces and/or vomitus is likely. Ensure hands are washed properly after removing gloves. Refer to the Health Department’s Routine Practices in Community Settings poster for the clean-up of blood, feces, vomitus, etc.

☐ Increase frequency of environmental cleaning and disinfection, especially frequently touched surfaces such as hand contact areas, diapering and washroom areas, toys, tables, etc.

☐ Discontinue group water play and shared sensory play table activities (e.g. rice, macaroni, play dough, goop, plush toys, etc.).

☐ No room-to-room contact/activities among children and staff.

☐ Cancel community events (e.g. day nursery excursions, open house events, etc.) and restrict visitation to day nursery members only (e.g. no parent tours).

☐ No new admissions/transfers of children into day nursery or as directed by the Health Department.
PART 2 – OUTBREAK MANAGEMENT

Preliminary Evaluation

- Confirm the information in Part I is correct and update as needed.
- Review the outbreak case definition initially agreed upon. Does the outbreak case definition need to be revised?  
  _____ yes  _____ no

Revised Outbreak Case Definition:
________________________________________________________________________
________________________________________________________________________
________________________________________________________________________
  Date: __________________

a) Is a suspect outbreak occurring?  
  _____ yes  _____ no

b) In reviewing the information collected, what is the most likely type of illness?  
  _____ enteric  _____ respiratory  
  (go to question f)

Respiratory Outbreak:

c) If a respiratory illness, is influenza suspected?  
  _____ yes  _____ no

d) If yes, recommend child/staff visit their family physician for treatment and/or testing.  
  _____ yes  _____ no

e) Staff and children vaccination status (place a number in the appropriate box).

<table>
<thead>
<tr>
<th></th>
<th>Vaccinated Against Influenza <em><strong><strong>/</strong></strong></em> Season</th>
<th>Not Vaccinated Against Influenza <em><strong><strong>/</strong></strong></em> Season</th>
<th>Unknown <em><strong><strong>/</strong></strong></em> Influenza Vaccination Status</th>
</tr>
</thead>
<tbody>
<tr>
<td>Staff (incl. supervisors)</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Children</td>
<td></td>
<td></td>
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<tr>
<td>Volunteers and Part-time Staff</td>
<td></td>
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</tbody>
</table>
Enteric Outbreak:

f) If an enteric illness, is viral gastroenteritis suspected?
   _____ yes     _____ no     _____ unknown

   g) Is contaminated food suspected as being the cause of illness?
      _____ yes     _____ no     _____ unknown

      If yes or unknown, refer to Day Nursery area PHI for kitchen follow-up.

h) Are food samples available (e.g. leftover food served 72 hours prior to onset of illness)?
   _____ yes     _____ no

Note: If yes, samples of food served within the last 72 hours (prior to onset of illness) must be kept on hold under refrigeration until you are advised that they are no longer required. DO NOT SERVE LEFTOVERS.

Food Samples Collected

<table>
<thead>
<tr>
<th>Name of Food</th>
<th>Date Prepared</th>
<th>Date Served</th>
<th>Name of Person Preparing Food</th>
</tr>
</thead>
<tbody>
<tr>
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</tbody>
</table>
PART 3- ENTERIC OUTBREAK KITS

ENTERIC OUTBREAK KITS

You have been provided with ______ enteric outbreak kits. Each kit contains 3 vials/bottles. Check expiry dates on all vials/bottles. Do not use if expired and report immediately to the Public Health Inspector.

Instructions for Collecting Stool Samples (Specimens)

1. Fill in the following information on the label for each vial.
   - Patient’s Name (child or staff name)
   - Patient’s Date of Birth
   - Date Collected (date stool collected)

2. Fill in the following information on the white label on clear plastic bag of the Enteric Outbreak Kit.
   - Patient’s Name (child or staff name)
   - Patient’s Date of Birth
   - Date Collected (date stool collected)
   - Onset Date (date that child/staff started experiencing symptoms of illness)
   - Outbreak No. - Note: The outbreak number is: 2230 - ______ - ______
   - Check off boxes that apply
     ⇒ Resident means child/staff,
     ⇒ Sympt. means individual is showing signs of illness,
     ⇒ Asympt. means individual is not showing any signs of illness

   • We do not need the Health Card Number.

3. Take the Kit No. from the Enteric Outbreak Kit label (top right hand corner) and record Kit No. in the appropriate column beside the child/staff name on the Outbreak Line Listing form.

4. Fill all 3 vials with stool (feces), up to the line indicated on the side of the vial. If possible obtain stool specimens from the first symptomatic bowel movement, otherwise, do the best that you can. Scraping faeces (stool) from a diaper, piece of clothing or even off the floor is satisfactory.

<table>
<thead>
<tr>
<th>Vial (Cap Colour)</th>
<th>Test</th>
<th>Directions</th>
</tr>
</thead>
<tbody>
<tr>
<td>Green</td>
<td>Bacterial</td>
<td>Using the spoon provided, collect 2-3 spoonfuls of stool, touching areas of blood, mucus and pus. Mix well into transport media. Replace cap securely.</td>
</tr>
<tr>
<td>White</td>
<td>Viral and Toxin</td>
<td>Add stool to line indicated. Replace cap securely.</td>
</tr>
<tr>
<td>Yellow</td>
<td>Parasitology</td>
<td>Add stool to line indicated. Mix well into transport media. Replace cap securely.</td>
</tr>
</tbody>
</table>

Note: Small amounts of specimen can be collected for each vial, when 2-3 spoonfuls are not available.
5. Return all 3 vials to Enteric Outbreak Kit plastic bag.

6. Refrigerate outbreak kit(s) **immediately** and **store away from food**. DO NOT FREEZE.

7. **Contact the Health Department for pick-up of the enteric outbreak kit(s).**
   Kit(s) will be transported to the Public Health Laboratory for analysis as soon as possible.

   Day Nursery Contact Person: ____________________________________________

   Enteric Outbreak Kit Location: _________________________________________
   *(Fridge where Kits are being stored in Day Nursery)*

8. The Health Department will contact the Day Nursery with specimen lab results when they are received.

   Day Nursery Contact Person: ___________________________________________
   *(person receiving results)*

   Date lab results reported to Day Nursery: ________________________________

   Lab results identified a microorganism as possible cause of outbreak:
   ______ yes ______ no

   Name of microorganism: ______________________________________________

   Additional comments:
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________
   ___________________________________________________________________

**Note:** Ill staff may be required to provide stool specimens as requested by the Health Department.
PART 4 – CRITICAL CONTROL MEASURES AND RESPONSIBILITIES

A. Responsibilities of Supervisor / Person In Charge

**Supervisor of the Day Nursery**

Name: ___________________________

- Increase the frequency of **hand hygiene** practices among children and staff. Reinforce proper handwashing procedures (refer to the Health Departments 6 step “*Handwashing*” poster (DUHEV-280)) along with the appropriate use of alcohol based hand rubs. During enteric outbreaks 70-90% alcohol based hand rubs are recommended.

Note: Hand hygiene can either involve handwashing or the use of an appropriate hand sanitizer depending upon the situation.

- Ensure handwashing occurs especially during the following situations:
  - when hands are visibly soiled
  - before preparing and serving foods to children (staff)
  - before eating snacks and meals (staff and all children)
  - before feeding infants/toddlers (staff)
  - after toilet use (staff and children)
  - after diaper changing (staff and children)
  - after contact with blood or body substances (e.g. nasal discharge, vomitus, feces)

- Staff shall wear gloves when contact with blood and/or body substances (e.g. diarrhea, vomitus) are likely. Handwashing must occur after gloves are removed.

- Follow appropriate **Routine Practices** when cleaning up substances that may contain blood or body substances (refer to the Health Departments *Routine Practices in Community Settings* poster). The same procedure can be used when cleaning up feces or vomitus.

- General coordination of the outbreak management process.

- Advise all parents and staff of the outbreak and what actions are necessary if their child becomes symptomatic. The day nursery should post a sign at all entrances into the centre advising parents of the outbreak.

- Provide an updated outbreak line listing to the Health Department **daily**, forwarded to the attention of the investigating Public Health Inspector, fax # 905-666-1833 or telephone # 1-888-777-9613.

- Immediately advise the Health Department of any hospitalizations of **line listed cases**.
Coordinate and ensure that the agreed upon Control Measures for Outbreaks are enforced. The Supervisor should ensure that the list of Control Measures for Outbreaks is posted in each room. Ensure all staff members understand and implement the control measures outlined.

Ensure the proper use of the enteric outbreak kits whenever requested by the Health Department. Contact the Health Department when kit(s) become available for pick up. Arrangements can be made to have the Health Department deliver and pick up kits from a home when necessary.

Isolate ill children until they are removed from the centre by their parents.

Exclude ill children/staff from the centre until _____ hours after person’s symptoms have stopped.

No new child admissions during the outbreak. Admissions to unaffected room(s) can be discussed with the investigating Public Health Inspector.

Cohorting of ill staff and ill children when necessary.

During an outbreak do not interchange staff/children from room to room.

Ensure all staff follow proper infection control procedures.

Ensure outbreak kits are collected from staff when requested by the Health Department. Arrangements can be made to have the Health Department deliver and pick up kits from the home when necessary.

Staff shall report if they are experiencing any outbreak related symptoms of illness to the Supervisor.

Review diapering procedures and ensure procedures are being followed (refer to the Health Department’s Diapering Procedure, Important Steps to Remember).

Ensure diaper change tables are disinfected after each child using an appropriate disinfectant. Follow manufacturer’s instructions on label of the disinfectant (e.g. appropriate uses, mixing solution, contact time, etc.).

Ensure children’s hands are washed (using soap and water) after diaper changing and/or using the washroom.

Staff and children shall practice frequent hand hygiene, including washing hands just prior to eating or when hands are visibly soiled.

Encourage older children to report outbreak related symptoms/illness to their caregiver and parents.
D. Housekeeping Requirements

- Enhance environmental cleaning and disinfection.

  **Note:** Increase the frequency of cleaning and disinfection of high traffic areas, frequently touched surfaces and surfaces most likely to be contaminated (e.g. diaper change surfaces, toilets, handwashing sinks and faucets, toys, infant vinyl floor mats, tables, door knobs, etc.).

- Reusable cloths used to clean and disinfect surfaces shall be used once, then laundered prior to reuse.

- Surfaces shall be cleaned (using a detergent, warm water and applying friction) and rinsed prior to disinfection, especially when surfaces are heavily soiled. Refer to the Health Department’s Information Sheet on “Cleaning and Disinfection in Day Nurseries” (DUHEV-198).

- Follow and review manufacturer’s instructions for cleaners (detergents) and disinfectants used on-site and ensure instructions are being followed (e.g. mixing solution, contact time, etc.).

- Mix fresh bleach solutions daily and use chlorine test strips to test proper strength. Other disinfectants requiring dilution shall be diluted as per manufacturer’s instructions.

- All disinfectants shall be tested daily (where test reagents are available) to ensure an effective chemical strength.

  **Important Note:** Increase the frequency of environmental cleaning and disinfection as soon as an outbreak is suspected, do not wait for the outbreak to be confirmed.
### OUTBREAK SUMMARY AND EPI-CURVE

<table>
<thead>
<tr>
<th>Name of Day Nursery:</th>
<th>File No.:</th>
<th>Type of Outbreak:</th>
<th>Public Health Inspector:</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td>□ Enteric □ Respiratory</td>
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</table>

<table>
<thead>
<tr>
<th>Date of Onset</th>
<th>Notification Date</th>
<th>Date Outbreak Declared Over</th>
<th>Laboratory Results:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Day Month Year</td>
<td>Day Month Year</td>
<td>Day Month Year</td>
<td>□ Pending</td>
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</table>

**Case Definition:**

____________________________________________________________________________________________
_________________________________________________________________________________

<table>
<thead>
<tr>
<th>Child Population at Risk</th>
<th>Number of Child Cases</th>
<th>Staff Population at Risk</th>
<th>Number of Staff Cases</th>
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</table>

**Number of Cases**

Date of Onset of Illness

12
# OUTBREAK NOTES

<table>
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<tr>
<th>Date</th>
<th>Time</th>
<th>Spoke To</th>
<th>Comments</th>
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# OUTBREAK NOTES

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<th>Time</th>
<th>Spoke To</th>
<th>Comments</th>
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<tr>
<td>SYMPTOMS</td>
<td>RETURN DATE</td>
<td>COMMENTS</td>
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<tr>
<td>diarrhea</td>
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<tr>
<td>bloody stool</td>
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<tr>
<td>nausea</td>
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<td>vomiting</td>
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<td>runny nose</td>
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<tr>
<td>dry cough</td>
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<tr>
<td>malaise</td>
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<td>poor appetite</td>
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<td>other</td>
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</table>

Day Care Name: ___________________________
Operator: ________________________________
Address: ________________________________
Phone #: ________________________________
Fax #: _________________________________
### DAY NURSERY OUTBREAK LINE LISTING FORM

**Case Definition:**

Date: ________________________

Name: __________________________________________________

Address:  ________________________________________________________     Phone No.: _________________________     Fax No.: ___________________

<table>
<thead>
<tr>
<th>Gender (M/F)</th>
<th>Date of Birth (dd/mm/yyyy)</th>
<th>Room #</th>
<th>Date of Onset of Symptoms (d/m)</th>
<th>Enteric</th>
<th>Enteric</th>
<th>Enteric</th>
<th>Respiratory</th>
<th>Respiratory</th>
<th>Respiratory</th>
<th>Respiratory</th>
<th>Respiratory</th>
</tr>
</thead>
<tbody>
<tr>
<td>Malaise</td>
<td>Nausea</td>
<td>Vomiting</td>
<td>Diarrhea (record # of episodes)</td>
<td>Blood stool</td>
<td>Abdominal cramps</td>
<td>Headache</td>
<td>Headache</td>
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<td>Headache</td>
<td>Headache</td>
<td>Headache</td>
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<tr>
<td>Headache</td>
<td>Fever (°C) or (°F)</td>
<td>Chills</td>
<td>Dry cough (new)</td>
<td>Productive cough (new)</td>
<td>Nasal congestion / stuffy nose</td>
<td>Nasal congestion / stuffy nose</td>
<td>Nasal congestion / stuffy nose</td>
<td>Nasal congestion / stuffy nose</td>
<td>Nasal congestion / stuffy nose</td>
<td>Nasal congestion / stuffy nose</td>
<td>Nasal congestion / stuffy nose</td>
</tr>
<tr>
<td>Other</td>
<td>Other (please specify)</td>
<td>Other</td>
<td>Other</td>
<td>Other</td>
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<td>Other</td>
<td>Other</td>
<td>Other</td>
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<td>Other</td>
</tr>
</tbody>
</table>

**Specimens:**

- Fecal (f)
- Saliva (s)
- Nasal (n)

**Notes:**

- Staff and children on separate forms

**Health Department:**

1-800-777-9613

**Fax:**

(905) 666-1833

**Comments/Diagnosis:**

**Sample Taken (f, s, n):**

**Kit Number:**

**Date Collected:**

**Lab Result (+ve or -ve):**

**Date Returned to Day Care (d/m):**

**Symptoms Resolved (y/n):**

**Symptoms:**

- Enteric
- Respiratory

**Page ____ of ____**

**DUHEV-303, Apr. 11**