Long-Term Care Homes & Retirement Homes Infection Prevention and Control Manual

HealthUnit
Haldimand-Norfolk

www.hnhu.org
info@hnhu.org

Updated: September 2013

Introduction

Purpose

This Infection Prevention and Control Manual was created by the Haldimand Norfolk Health Unit (HNHU) for Long-Term Care Homes (LTCHs) and Retirement Homes (RHs). It is designed to provide current information for the development and maintenance of an Infection Prevention and Control Program within your facility.

How to Use This Manual

This manual contains eight sections. In addition, a resource disc has been provided containing all relevant guidelines and protocols used to develop this manual.

Acknowledgments

This manual has been adapted and reproduced with permission of Simcoe Muskoka District Health Unit. The Haldimand Norfolk Health Unit recognizes the emerging infectious diseases within the home environments and felt that a manual would be a great resource for each facility.

The Haldimand Norfolk Infectious Disease Team would like to thank Simcoe Muskoka for sharing their manual and references.

Table of Contents

Infection Prevention and Control Manual

The Ministry of Health and Long-Term Care (MOHLTC) mandates that all LTCHs in the province of Ontario maintain an Infection Prevention and Control Manual. This manual should contain infection prevention and control policies and related procedures, as well as guidelines on infection prevention and control to serve as a reference for all departments.

The purpose of an Infection Prevention and Control Manual is to provide recommendations and best practices for health care workers (HCWs) to protect themselves, residents, visitors to the facility, and the community from infection whenever possible. The manual also serves as a tool to enhance surveillance for the IPCP.

The manual should be reviewed and updated at least annually, and more often as needed.

Annual Review of Policy and Procedure Manual[1]

Date	Reviewed by	Changes Made	Approved by

Section I - Infection Prevention and Control Program

LTCHs and RHs should develop and maintain an Infection Prevention and Control program that provides a safe, sanitary, and comfortable environment to help prevent the development and transmission of infections.

This program should:

- Obtain and manage critical data and information, including surveillance for infections.
- Develop and recommend policies and procedures.
- Intervene directly to prevent and control infections.
- Educate and train health care workers, patients and non medical caregivers.
- Ensure compliance with specific protocols, and guidelines created from Best Practices.
- Be monitored by an Infection Prevention and Control Committee (IPCC) at quarterly Infection Prevention and Control meetings.[2]

General Infection Control Concepts

1. Infection surveillance will be either "whole-house" (i.e. include all residents), or targeted (i.e. toward high risk/high volume). Data should be reported internally on a monthly, quarterly, or other basis (as indicated by the IPCC).
2. A "nosocomial infection" will be defined as any infection that is not present or incubating at the time of admission.
3. "Community-acquired" will be defined as any infection present or incubating at the time of admission.
4. Any infection that demonstrates itself within 72 hours of admission will be considered a "community-acquired infection".
5. "Chronic infections" are defined as those present at the same site for a period greater than 3 months. These infections will be monitored as all other infections; however, they will be designated as chronic in monthly reports and other statistics, and will only be counted in the month identified.
6. "Critical" definitions of infection will be approved by the IPCC and utilized by the IPCP in determining infection rates.
7. An assessment of risk for infection in residents and staff will be performed annually.
8. Environmental cultures will be obtained only if a problem area is identified, or at the direction of federal, provincial or local health unit authorities.
9. Resident cultures will be performed according to facility policy or at the direction of the resident's attending physician and/or federal, provincial, or local health unit authorities.[3]

Definition of Direct Care

This is the direct quote from the PIDAC Routine Practices and Additional Precautions, July 2011. It was retrieved to add to the LTC manual glossary for clarification regarding a definition of "direct care".

Direct Care: Providing hands-on care, such as bathing, washing, turning client/patient/resident, changing clothes/diapers, dressing changes, care of open wounds/lesions or toileting.

Feeding and pushing a wheelchair are not classified as direct care.

Reference

Public Health Ontario, Provincial Infection Disease Advisory Committee (PIDAC). Routine Practices and additional precautions in all health care settings, July 2012

http://www.oahpp.ca/resources/pidac-knowledge/best-practice-manuals/routine-practices-and-additional-precautions.html

The Infection Prevention and Control Professional (IPCP)

The IPCP, under the direction of the IPCC, is responsible for the quality of resident care as it relates to the investigation, control and prevention of infections. It is important to have one staff member designated as the IPCP for the facility in order to coordinate the Infection Prevention and Control Program. Included below are some of the duties conducted by the IPCP:

- Perform surveillance required to identify individual infections in residents and staff, and to identify clusters of infection, in a timely manner.
- Track trends in infection within the facility, and report specific infections/clusters to appropriate staff as well as the MOHLTC and the HNHU.
- Identify infection control issues and make recommendations for corrective action.
- Participate as a member of the IPCC.
- May prepare the agenda and chair the IPCC meetings.
- Monitor infection control practices and employee compliance.
- Develop and revise infection prevention and control policies and procedures, and maintain the (IPC manual) for all departments.
- Conduct outbreak investigations and initiate control measures.
- Provide orientation and continuing education related to infection control for all staff.
- Provide infection control consultation to all departments.
- Actively participate in quality improvement programs.
- Participate in educational programs for personal professional development.
- Review outbreak preparedness within the facility, and obtain supply of culture kits.
- Monitor resident-care practices (i.e. hand washing, routine practices and additional precautions, dressing techniques, and perineal/catheter care).
- Monitor the quantity and accessibility of employee personal protection equipment (PPE) and ensure the appropriate use and maintenance of PPE.
- Identify, follow up, and monitor residents with known or suspected infection.
- Monitor IVs and the IV Program: practices and outcomes as well as staff training.
- Monitor antibiotic use.
- Review all culture reports and resident lab data, and report communicable diseases as required by MOHLTC and the HNHU.
- Monitor Occupational Health and Safety (OHS) programs (hepatitis B vaccination, needle stick and TB program).
- Prepare monthly statistics and distribute to administration, DOC, DON, and others as requested. Also present at quarterly IPC meetings to the IPCC.
- Review infection control program yearly to assess whether it is functioning as well as possible.
- When possible use the internet for **timely** infection control resources and **up-to-date** MOHLTC directives, guidelines, policies, protocols, and best practice documents.
- Be involved in projects for new construction or renovations, and conduct daily rounds during these projects.[2]

The Infection Prevention and Control Committee

Each health care facility should have its own Infection Prevention and Control Committee (IPCC).The purpose of the Committee is to give structure and administrative power to the Infection Prevention and Control Program, and to provide a means of communication for all parties involved.

Terms of Reference

The IPCC membership is composed of, but not limited to, the following:

- Infection Prevention and Control Professional (IPCP)
- Chair (if not the IPCP)
- Medical Advisor
- Administration
- Nursing Supervisor
- Pharmacy
- Environmental Services
- Dietary Services
- Laboratory (if on-site)
- Employee Health
- OHS
- The Medical Officer of Health (MOH) or designate from the HNHU

The IPCC should meet quarterly, or as needed, and will make recommendations for appropriate maintenance of a safe, sanitary and comfortable environment for the residents and staff to prevent the development and transmission of disease and infection.

The IPCC should develop and approve policies and procedures for all aspects of the Infection Prevention Control Program, review reported infections and incidents, and aid in determining appropriate corrective action.

Written reports of all committee meetings should be maintained and made available to all departments for review. These records should be retained and utilized for retrospective study.

HNHU representation on the IPCC will establish good communication channels between the health unit and the facility. The health unit is committed to providing consultation and support to all aspects of the facility infection prevention and control program.

As directed by their manager/supervisor under the guidance of the IPCP/IPCC, staff members have the responsibility of implementing and adhering to infection prevention and control policies and procedures within the facility, such as hand washing and personal hygiene.

Sample Agenda – Infection Prevention and Control Committee

(Insert Facility Letterhead)

Infection Prevention and Control Committee Meeting Agenda

Date:_____ Time: _____ Place: _____

I. Meeting called to order

II. Approval of previous meeting minutes

III. Business arising from the previous minutes

IV. Communications from regulatory agencies or recalls

V. Medical Advisory report

VI. Infection Control report

VII. Laboratory /Microbiological report

VIII. Employee Health report

IX. New business

X. New policies/procedures

XI. Annual review of policies/procedures

XII. Haldimand Norfolk Health Unit report

XIII. Adjournment

XIV. Next Meeting

Infection Prevention and Control

What is an Infection?

An infection is the invasion of pathogenic (disease–causing) microorganisms (germs) into body tissues. The result may be clinically unapparent, or there may be symptoms such as fever, redness, swelling, or pain in the affected area. Sometimes, the disease may spread beyond the initially affected area.

A health-care-facility-related infection (nosocomial infection) is an infection that is acquired during the resident's stay in the facility, and which was not present or incubating upon admission. Community-acquired infection is any infection present or incubating at the time of admission. It is the responsibility of all employees to know and practice infection prevention and control measures. Before prevention measures can be adequately put into effect, all employees must be aware of the infection cycle.

The Six Elements of Infection

There are six elements in the cycle of infection, and all six must be present before the transmission of infection can take place.

Element in the cycle of infection	Explanation	Common examples
Infectious Agent	When germs enter the body, they can cause illness, especially in the elderly whose immune system is less responsive	• Bacteria, virus, fungi, protozoa
Reservoir	Where germs normally live and multiply	• Humans (i.e. residents/staff already infected) • Contaminated food, water, and equipment • Insects, animals, soil
Portal of Exit	How germs leave the body	• Respiratory tract • Intestinal tract • Urinary/genitourinary tract • Open wounds • Blood and body fluids
Transmission	How germs are spread	• Direct contact • Respiratory droplet • Body fluid splashes • Indirect contact • Needle stick Injury • Ingestion of contaminated food and water • Contaminated dust particles and equipment • Insects/animals
Portal of Entry	How germs enter the body	• Respiratory tract • Intestinal tract • Urinary/genitourinary tract • Open wounds • Mucus membrane, e.g. eye, mouth
Susceptible Host	A person who gets an infection because he/she is unable to successfully fight the infection	• Infants, elderly and debilitated • Persons who are ill • Persons who are taking certain drugs that lower their defense against germs • Persons with underlying disease conditions that lower their defense against other germs

How to Prevent the Infection: Breaking the Cycle

Studies have shown that breaking the transmission phase of the cycle is one of the most effective ways to prevent infection. The best way to break the transmission phase is thorough and frequent hand washing, and good personal hygiene.

Personal Hygiene

Good personal hygiene is extremely important in preventing the spread of pathogens. All employees should practice the following:

- Shower or bathe daily.
- Keep nails neat and trimmed.
- No nail polish or false nails.
- Jewelry should be kept to a minimum.
- Wear a clean uniform daily (Change prior to leaving the facility and between facilities).

McGeer's Definitions of Infection [3]

Dr. Allison McGeer is the Director of Infection Prevention & Control at Mount Sinai Hospital in Toronto, Ontario.

Principles

- The definitions presented here are not all-inclusive.
- They focus on infections for which surveillance is expected to be useful (i.e. infections that are common and can be acquired and detected in the facility).
- Three important conditions apply to all of the definitions:

1. All symptoms must be new or acutely worse. Many residents have chronic symptoms, such as cough or urinary urgency that are not associated with infection; however, a change in the resident's status is an important indication that an infection may be developing.
2. Noninfectious causes of signs and symptoms should always be considered before a diagnosis of infection is made.
3. Identification of infection should not be based on a single piece of evidence. Microbiological and radiological findings should be used only to confirm clinical evidence of infection. Similarly, a physician diagnosis should be accompanied by compatible signs and symptoms of infection.

Upper Respiratory Tract Infection (URTI)

Common cold syndromes/pharyngitis: The resident must have at least 2 of the following:

- runny nose/sneezing
- stuffy nose/congestion
- sore throat/hoarseness difficulty in swallowing/dry cough
- swollen or tender glands in the neck (cervical lymphadenopathy)

Comment: Fever may or may not be present. Symptoms must be new, and care must be taken to ensure that they are not caused by allergies.

Influenza-like illness: Both of the following criteria must be met:

- Fever (38°C)

The resident must have at least three of the following signs or symptoms:

- chills
- new headache or eye pain
- myalgias
- malaise or loss of appetite
- sore throat
- new or increased dry cough

Comment: This diagnosis can be made only during influenza season.

Lower Respiratory Tract Infections (LRTI)

Pneumonia: Both of the following criteria must be met:

- Interpretation of a chest radiograph as demonstrating pneumonia, probable pneumonia, or the presence of an infiltrate. If a previous radiograph exists for comparison, the infiltrate should be new.
- The resident must have at least two of the signs and symptoms described under ''other lower respiratory tract infections.''

Comment: Noninfectious causes of symptoms must be ruled out. In particular, congestive heart failure may produce symptoms and signs similar to those of respiratory infections.

Other (LRTI) bronchitis, tracheobronchitis:
The resident must have at least three of the following signs or symptoms:

- new or increased cough
- new or increased sputum production
- fever (38°C)
- pleuritic chest pain
- new or increased physical findings on chest exam (rales, rhonchi, wheezes, or bronchial breathing)
- one of the following indications of change in status or breathing difficulty: new/increased (SOB), or respiratory rate >25/min, or worsening mental or functional status

Comment: This diagnosis can be made only if no chest film was obtained or if a radiograph failed to confirm the presence of pneumonia.

Copied with permission. Courtesy of Allison McGeer.

Urinary Tract Infections (UTI)

Includes only symptomatic (UTI). One of the following criteria must be met:*

The resident does not have an indwelling urinary catheter and has at least three of the following signs and symptoms: • fever (38°C) or chills, • new or increased burning pain on urination, frequency or urgency • new flank or suprapubic pain or tenderness • change in character of urine • worsening of mental or functional status (may be new or increased incontinence).	The resident has an indwelling catheter and has at least two of the following signs or symptoms: • fever (38°C) or chills • new flank or suprapubic pain or tenderness • change in character of urine • worsening of mental or functional status **Comment:** * It should be noted that urine culture results are not included in the criteria. Change in character may be clinical (e.g., new bloody urine, foul smell, or amount of sediment), or as reported by the laboratory (new pyuria or microscopic hematuria). For laboratory changes, this means that a previous urinalysis must have been negative.

Eye Infections

Must not be due to allergy or trauma to the conjunctiva.

Conjunctivitis: One of the following criteria must be met:

- Pus appearing from one or both eyes, present for at least 24 hours.
- New or increased conjunctival redness, with or without itching or pain, present for at least 24 hours.

Comment: Symptoms must not be due to allergy or trauma to the conjunctiva.

Ear infection

One of the following criteria must be met:

- Diagnosis by a physician of any ear infection.
- New drainage from one or both ears. (Non-purulent drainage must be accompanied by additional symptoms, such as ear pain or redness.)

Mouth and Peri-Oral infections

- Including oral candidiasis must be diagnosed by a physician or a dentist.
- Sinusitis: The diagnosis of sinusitis must be made by a physician.

Skin infections

Cellulitis/soft tissue/wound infection: One of the following criteria must be met: 1. The resident must have four or more of the following signs or symptoms: • fever (38°C) • heat • redness • swelling • tenderness or pain • serous drainage 2. Pus present at a wound, skin, or soft tissue site.	**Fungal skin infection:** The resident must have both: • a maculopapular rash • either physician diagnosis or laboratory confirmation.
Herpes simplex and herpes zoster infection: For a diagnosis of cold sores or shingles, the resident must have both: • a vesicular rash • either physician diagnosis or laboratory confirmation.	**Scabies** The resident must have both: • a maculopapular and/or itching rash • either physician diagnosis or laboratory confirmation. **Comment:** Care must be taken to ensure that rash is not an allergic reaction or secondary to skin irritation.

Copied with permission. Courtesy of Allison McGeer.

Gastrointestinal Tract Infection (GTI)

Rule out noninfectious causes of symptoms (i.e. new medications).
One of the following criteria must be met:

Two or more loose or watery stools above what is normal for the resident within a 24-hour period.	Two or more episodes of vomiting in a 24-hour period.	Both of the following: • A stool culture positive for a pathogen (Salmonella, Shigelloses, *E. coli* O157:H7, Campylobacter); or a toxin assay positive for *C. difficile* toxin. • At least one symptom or sign compatible with gastrointestinal tract infection (nausea, vomiting, abdominal pain or tenderness, diarrhea).

Systemic Infections

Primary bloodstream infection: One of the following criteria must be met:

- Two or more blood cultures positive for the same organism.
- A single blood culture documented with an organism thought not to be a contaminant, and at least one of the following:
  - fever 38°C or hypothermia < 34.5°C
  - drop in systolic blood pressure of 30 mmHg from baseline
  - worsening of mental or functional status

Comment: Bloodstream infections related to infection at another site are reported as secondary bloodstream infections, and are not included as separate infections.

Fever of Unknown Origin (FUO)

The resident must have documentation in the medical record of fever (38°C) on two or more occasions at least 12 hours apart in any 3-day period, with no known infectious or noninfectious cause.

Copied with permission. Courtesy of Allison McGeer.

Principles of Transmission of Microorganisms

Disease-causing microorganisms (pathogens) are transmitted by many different routes within health care settings.

Contact Transmission

Direct contact transmission occurs when a person acquires pathogens from physical contact with an infected or colonized person directly without an intermediate contaminated object or person. Examples include:

- Blood or body fluids from an infected person enters a susceptible person's body through contact with a mucous membrane or breaks in the skin.
- Mites from a scabies-infested person to another person through ungloved contact with the skin.
- A HCW develops herpetic whitlow on a finger after providing oral care to a resident without using gloves.

Indirect contact transmission involves the transfer of pathogens through a contaminated object or person. Examples include:

- HCWs' hands may transmit pathogens after touching an infected person or body fluids or a contaminated object, then touch another person without decontaminating or washing hand.
- Resident-care devices (e.g. thermometers, glucose monitoring devices) shared between residents without cleaning and disinfecting in-between.
- Shared activity equipment may become vehicles for transmitting pathogens.
- Clothing, uniforms, gowns used as personal protective equipment may be contaminated after caring for an infected or colonized resident, creating the potential to transfer the pathogens to successive residents.

Some pathogens spread by direct and indirect contact are: rotavirus and Norovirus (also via aerosol), hepatitis B virus, respiratory syncytial virus (RSV), herpes simplex viruses, *Clostridium difficile*, *Staphylococcus aureus* (including Methicillin-Resistant strains – MRSA), and Vancomycin-Resistant Enterococcus (VRE). Additional precautions will be warranted when entering a resident's room.

Droplet Transmission

Droplet transmission occurs through large droplets, generally over five microns in diameter, coming from an infected person's respiratory tract during coughing, sneezing, talking, or during procedures such as suctioning, endotracheal intubation, cough induction by chest physiotherapy and cardiopulmonary resuscitation. These droplets carrying pathogens are propelled a short distance in the air before coming in contact with the mucus membrane of the nose, eyes, and less often the mouth, of a susceptible person. Large droplets do not remain suspended for long, or they lose their infectivity over long distances, so special ventilation is not required. A distance of under 3 feet around the source used to be defined as the area of risk. Recent studies suggest that droplets could reach persons located 6 feet or more from their source.

Some pathogens transmitted by droplets are: influenza virus, adenovirus and rhinovirus (cold viruses), SARS-associated coronavirus (SARS-CoV), *Bordetella pertussis* (whooping cough), group A streptococcus, *Neisseria meningitides, Mycoplasma pneumoniae,* rubella, parainfluenza virus, and RSV.

Airborne Transmission

Airborne transmission occurs by spreading of airborne droplet nuclei (particles arising from desiccation of suspended droplets) or small particles in the respirable size range containing pathogens that remain infective over time and distance. Airborne particles fewer than 100 microns can remain suspended in air when air current speeds exceed the settling speed of the particles. Pathogens may be inhaled by susceptible persons some distance away. Special air handling and ventilation systems to contain and safely remove the pathogen are required.

Pathogens of concern include *Mycobacterium tuberculosis*, varicella-zoster virus (chickenpox), localized herpes zoster (shingles) until disseminated infection is ruled out, rubeola virus (measles), variola virus (smallpox – more often spread by droplet and contact but possibly airborne), and *Aspergillus* spores.

Other Mechanisms of Transmission

Pathogens can also come from the environment. For example, *Aspergillus* spores (e.g. via construction dust) inhaled from the environment may cause disease in immunocompromised persons. Legionella from a common aerosol source can cause respiratory infection when inhaled. Please refer to “Construction-related Nosocomial Infections in Patients in Health Care Facilities”, in Canada Communicable Disease Report, July 2001, Volume 27S2 for specific infection prevention and control measures. Insects, rats and other pests can be vehicles for spreading pathogens to people. Moreover, food, medication, IV fluid, medical supplies, equipment may spread infections to multiple residents. Strict adherence to Routine Practices and facility pest control policies are effective in preventing pathogen spread via these channels. The Hazard Analysis Critical Control Point Protocol published by the Ministry of Health in 1998 offers further guidance to prevent foodborne infections.

Precautionary Measures

Routine Practices (RP): are applied to all residents with suspected or confirmed infections, based on the HCWs' interactions with the resident and the extent of anticipated blood, body fluid, or pathogen exposure. Routine Practices include:

Hand Hygiene
Hand hygiene is the single best preventative measure, when there is evidence of HCW compliance. A multifaceted, multidisciplinary, facility wide hand hygiene program, involving administration, leadership, education, champions and environmental enablers case effect to reduce incidence of HAI.

- Avoid unnecessary touching of surfaces in close proximity to the resident when providing care.
- Sanitize hands with an alcohol-based hand rub **when** hands are not visibly soiled. Less preferably but required when hands are visibly soiled, wash hands with soap and water.
    - Before having direct contact with a resident with suspected or confirmed infections.
    - After contact with blood, body fluids or excretions, mucous membranes, non-intact skin, or wound dressings.
    - After contact with a resident's intact skin (e.g. when taking a pulse or blood pressure or lifting a resident).
    - When hands will be moving from a contaminated body site to a clean body site during resident care.
    - After contact with objects in the immediate vicinity of a resident.
    - After removing gloves and other PPE.
- Wash hands with a plain or antimicrobial soap and water **when** hands are visibly dirty, contaminated with proteinaceous material, or visibly soiled with blood or body fluids, AND when contact with bacterial spores is likely to have occurred.

Use of PPE
PPE is used to prevent transmission of infectious agents from both patient to patient and patient to staff.

- Wear PPE that fit.
- Remove and discard PPE before leaving the resident's room or cubicle using proper technique to avoid contamination.
- Do not reuse disposable PPE as they cannot be adequately cleaned and disinfected.
- Wear **disposable medical examination gloves** for providing direct care to protect the hands from contamination when contact with blood or other potentially infectious materials, mucous membranes, non-intact skin, or potentially contaminated intact skin (e.g. of a resident incontinent of stool or urine) is anticipated. Do NOT wear the same pair of gloves for more than one resident. Change gloves during resident care if the hands will move from a contaminated body site to a clean body site.
- Wear **reusable utility gloves** for cleaning the environment or medical equipment.
- Wear a **gown** for direct resident contact if the resident has uncontained secretions or excretions to protect skin and prevent soiling or contamination of clothing.
- Wear **mouth, nose, and eye protection** to protect the mucous membranes of the eyes, nose and mouth during resident care activities that are likely to generate splashes or sprays of blood, body fluids, secretions and excretions.
- Wear a **face shield** that fully covers the front and sides of the face, or a **mask with attached shield**, or a **mask and goggles** during aerosol-generating procedures (e.g. bronchoscopy, suctioning of the respiratory tract not using in-line suction catheters, endotracheal intubation) in residents not suspected of being infected with an agent requiring respiratory protection.

Respiratory Hygiene / Cough Etiquette

- Applied broadly to all persons (HCWs, residents and visitors) entering the facility with signs of illness including cough, congestion, runny nose, or increased respiratory secretions.
- Aims to control the source of undiagnosed transmissible respiratory infections.
- Cover the mouth and nose with a tissue when coughing and dispose of used tissues promptly.
- Perform hand hygiene after contact with respiratory secretions.
- Post signs at entrances, elevators, cafeterias, etc. with instructions to anyone with respiratory symptoms to cover their mouths / noses when coughing or sneezing, use and dispose of tissues, and perform hand hygiene after hands have been in contact with respiratory secretions.
- Provide tissues and no-touch receptacles (foot-pedal operated lid or open, plastic-lined waste basket) for disposal of tissues.
- Provide resources and instructions for performing hand hygiene in or near common areas; provide conveniently-located dispensers of alcohol-based hand rubs and, where sinks are available, supplies for hand washing.
- When tolerated and appropriate, offer masks to coughing residents and other symptomatic persons upon entry into the facility, and encourage them to maintain spatial separation, ideally at least one metre, from others in common areas.
- Educate staff, residents and visitors to contain respiratory secretions, especially during seasonal outbreaks of viral respiratory tract infections.

Resident Placement

- Place residents who might spread infection to others (e.g. uncontained secretions, excretions or wound drainage) in a single room when available.
- Determine resident placement by assessing the route of spread of the known or suspected pathogen, the infected resident's risk for spreading the pathogen, other residents' risk of acquiring infection in the area or room, availability of single rooms, and if residents with the same infection could be cohorted.

Resident Care Equipment and Instrument / Devices (see sub-section on Cleaning and Disinfection)

Environmental Cleaning and Disinfection (see sub-section on Cleaning and Disinfection)

Textile and Laundry (see sub-section on Linen Handling)

Transmission-based Precautions: used in addition to RP when the spread of the pathogen is not completely interrupted by using RP alone, or when infection with epidemiologically-important pathogens are suspected or confirmed. Based on how the pathogens spread, these additional precautions are also known as transmission-based precautions, and they include Contact Precautions, Droplet Precautions, and Airborne Precautions. These precautions must be applied based on the clinical presentation and likely pathogens while waiting for laboratory confirmation. For additional information on the clinical conditions warranting additional precautions before the pathogens are identified, refer to the "Guideline for Isolation Precautions: Preventing Transmission of Infectious Agents in Healthcare Settings, June 2007" by Siegel et al. Efforts must be made to counteract possible adverse effects on the residents, e.g. anxiety, depression and other mood disturbances, perceptions of stigma, reduced contact with staff and fellow residents and visitors.

Contact precautions (CP): intended to prevent spread of pathogens by direct or indirect contact with an infected person and his/her environment. For example, where excessive wound drainage, fecal incontinence, or other bodily discharges could increase the risk of extensive environmental contamination and spread of infection. Discontinue CP after signs and symptoms of the infection have resolved, or according to pathogen-specific recommendations. NOTE: extend the duration of CP for immunosuppressed residents with viral infections due to prolonged shedding of the viral pathogen that may be transmitted to others.

Resident Placement

- For each case, balance infection risks to roommates, the infected person's risk factors that increase the likelihood of spread, and the potential adverse psychological impact on the infected or colonized resident.

Use of PPE

- Don **gloves** upon entry into the room or cubicle when the HCW anticipates touching the resident's intact skin or surfaces and articles in the resident's vicinity.
- Don **gown** upon entry into the room or cubicle when anticipating that clothing will have direct contact with the resident or potentially contaminated environmental surfaces or equipment in the resident's vicinity.
- **Remove PPE** and perform hand hygiene before leaving the resident-care environment and take care to avoid clothing and skin contact with potentially contaminated environmental surfaces.

Resident Transport

- Limit residents transport and movement outside the room to medically-necessary purposes.
- When transport or movement is necessary, contain and cover any infected or colonized areas.
- Remove and dispose of contaminated PPE and perform hand hygiene prior to transporting residents.
- Don clean PPE to handle the resident at the transport destination.

Resident Care Equipment and Instruments / Devices

- Use disposable non-critical resident care equipment (e.g. blood pressure cuffs) or dedicate such equipment to the resident; clean and disinfect common use equipment for multiple residents before use on another resident.

Environmental Cleaning and Disinfection

- Prioritize rooms of residents on CP for frequent cleaning and disinfection (e.g. at least daily), focusing on frequently-touched surfaces (e.g. bed rails, over the bed table, bedside commode, lavatory surfaces in resident bathrooms, doorknob) and equipment in the resident's immediate vicinity.

Droplet precautions (DP): intended to prevent spread of pathogens by close respiratory or mucous membrane contact with respiratory secretions generated during coughing, sneezing or talking. Discontinue DP after signs and symptoms have resolved or according to pathogen-specific recommendations. NOTE: extend duration of DP for immunosuppressed residents with viral infections due to prolonged shedding of the viral pathogen that may be spread to other people.

Resident Placement

- Assess each case by considering infection risks to roommates and available alternatives.
- Single room preferred; cohort if single room not available, keep spatial separation of more than one metre and draw the curtain between resident beds.

Use of PPE

- Don a surgical **mask** upon entry into the resident room or cubicle when anticipating close contact with infectious residents.
- Wearing **goggle or face shield** for close contact with residents who require DP may be helpful.

Resident Transport

- Limit transport and movement of residents outside the room to medically-necessary purposes.
- When transport or movement is necessary, instruct resident to wear a surgical mask and follow Respiratory Hygiene / Cough Etiquette.
- No mask is required for persons transporting residents on DP.

Airborne precautions (AP): designed to prevent spread of pathogens that remain infectious over long distances when suspended in the air. Discontinue AP according to pathogen-specific recommendations.

Resident Placement

- Preferred placement in airborne infection isolation room (AIIR) with closed door:
  - 6 air changes per hour (existing facilities) or 9 air changes per hour (newly constructed facility), verified at least every 6 months.
  - Negative room air pressure relative to the corridor, verified at least every 6 months.
  - Direct air exhaust to the outside; if air recirculation is unavoidable, the air should be passed through a HEPA filters before being exhausted.
- When an AIIR is not available, transfer the resident to a facility that has an available AIIR, or mask the resident and place in private room with door closed.
- When the need for AIIR in the facility exceeds what is available (as in outbreaks):
  - Assess the safety of alternative room that does not meet engineering requirements for an AIIR.
  - Cohort residents presumed to have the same infection in areas of the facility away from other residents, especially those who are at increased risk for infection.

Personnel Restriction

- Whenever possible, non-immune HCWs should not care for residents with vaccine-preventable airborne diseases (e.g. measles, chickenpox, and smallpox).

Use of PPE

- Wear a **fit-tested N95** or higher level respirator on entry into the room of a resident with suspected or confirmed infections of:
  - Infectious pulmonary or laryngeal tuberculosis, or when infectious tuberculosis skin lesions are present and procedures that would aerosolize pathogens (e.g. irrigation, incision and drainage, whirlpool treatments) are performed.
  - Smallpox – vaccinated and unvaccinated HCWs should use respiratory protection due to the risk of a genetically engineered virus not covered by the vaccine, or of exposure to a very large viral load.
- For HCWs presumed to be immune to measles or varicella-zoster, it may be prudent to wear a respirator when caring for residents with known or suspected measles, chickenpox or disseminated zoster, as definite immunity is difficult to establish.
- For susceptible HCWs caring for residents with known or suspected measles, chickenpox or disseminated herpes zoster, it may be prudent to wear an N95 or higher level respirator than a surgical mask.

Resident Transport

- Limit transport and movement of residents outside the room to medically-necessary purposes.
- When transport or movement outside an AIIR is necessary, instruct resident to wear a surgical mask and follow Respiratory Hygiene / Cough Etiquette.
- For residents with chickenpox or smallpox skin lesions, or draining skin lesions of *Mycobacterium tuberculosis*, cover the affected area to prevent aerosolization of the pathogen in the skin lesions.
- HCWs transporting the resident on AP do not need to wear a mask or respirator during transport when the resident is wearing a surgical mask and skin lesions are covered.

Hand Hygiene

Hand hygiene is considered to be the most important measure to prevent the spread of infection!

Hands can play a major role in the indirect transmission of pathogens from surfaces to susceptible hosts. Therefore, hand washing facilities should be adequately located in LTCHs and RHs. “Readily accessible“, although not explicitly defined, means that a HCW must not have to travel through several doorways, halls, stairways, or use doorknobs or handles, in order to access the hand washing area.

Easy access minimizes the amount of time that contaminants remain in contact with skin, reduces the risk of cross contamination, and fosters an attitude of compliance due to accessibility of proper facilities.

Hand hygiene can be done with either plain soaps or antimicrobial products. Hand hygiene with plain soaps suspends microorganisms and allows them to be mechanically removed by rinsing under running water. Liquid, bar leaflet or powdered soap is acceptable for hand hygiene. Hand hygiene with antimicrobial products kills or inhibits the growth of microorganisms. This process is referred to as antisepsis.

Alcohol based hand rub (ABHR) should be located at point of care, to ensure health care providers can perform hand hygiene without leaving the client/resident. ABHRs are the preferred method to routinely decontaminate hands, when they are not visibly soiled, as they provide a quick kill of most transient microorganisms, as well ABHR is less time consuming and easier on skin.

Hands should be cared for so they do not become chapped or irritated. Using lotions can prevent this from occurring. It is important to note that petroleum-based lotions may weaken the integrity of latex gloves.

The Facts on Skin

- The skin of residents and HCWs can function as a reservoir for infectious agents and a vehicle for transfer of infectious agents to susceptible persons.
- The microbial flora of the skin consists of **resident** and **transient** microorganisms.
- **Resident microorganisms** persist and multiply on the skin, and are called the natural skin flora. They are very hard to remove with soap and water and often do not cause disease.
- **Transient microorganisms** are contaminants that usually survive for a limited period of time on the skin, and may be pathogens or disease causing organisms. Hand washing with soap and water is effective in removing many transient microorganisms.[6]

Hand Care

Adapted from the WHO Guidelines on Hand Hygiene in Health Care
October 2009

Intact skin is the first line of defense, therefore careful attention to skin care is an essential part of the hand hygiene program. During dry seasons and in individuals with damage to the skin, there have been documented increases in staphylococci and Gram-negative bacilli colonization. If integrity of skin is an issue, the individual should be referred to a physician for assessment.

There are two major types of skin reactions associated with hand hygiene. The first, and most common, is irritant contact dermatitis. Symptoms include dryness, irritation, itching, cracking and bleeding and can vary from mild to debilitating.

The second skin reaction is allergic contact dermatitis and although rare, occurs with an allergy to some ingredient in a hand hygiene product. In its most serious form, allergic contact dermatitis can lead to respiratory distress and anaphylaxis.

Hand hygiene products can damage the skin by causing denaturation of proteins in the stratum corneum (outermost layer of our skin), changes in intercellular lipids, and decreased stratum corneum water-binding capacity. The main concern is the depletion of the lipid barrier of epidermal cells.

There are two primary strategies to minimize hand hygiene-related irritant contact dermatitis among HCWs: select less irritating hand hygiene products and use moisturizing skin care products following hand cleansing.

Hand lotion prevents drying and cracked skin as they often contain humectants, fats and oils that increase skin hydration and replace altered or depleted skin lipids. Pump-type containers are recommended to prevent contamination. If containers are reused, the containers and the pumps should be washed and dried before refilling. All hand lotions should be reviewed with the person(s) overseeing employee health and infection prevention and control. It is also important to note that petroleum-based lotions may weaken the integrity of latex gloves.

Alcohol Hand Sanitizers

Most alcohol-based hand antiseptics contain ethanol, isopropanol, n-propanol, or a combination of two of these products. Concentrations are often expressed as a percentage by volume. The antimicrobial activity of alcohols results from their ability to denature proteins.

Alcohols have strong killing activity against Gram-positive and Gram-negative vegetative bacteria (including MRSA and VRE), *M. tuberculosis* and a variety of fungi. Unfortunately, they have limited activity against some non-enveloped (non-lipophilic) viruses and virtually no activity against bacterial spores or protozoan oocysts.

Alcohols are not good cleansing agents and their use is not recommended when hands are dirty or visibly contaminated with organic materials. However, when relatively small amounts of organic material are present, ethanol and isopropanol may reduce viable bacterial counts on hands but do not disqualify the need for handwashing with soap and water.

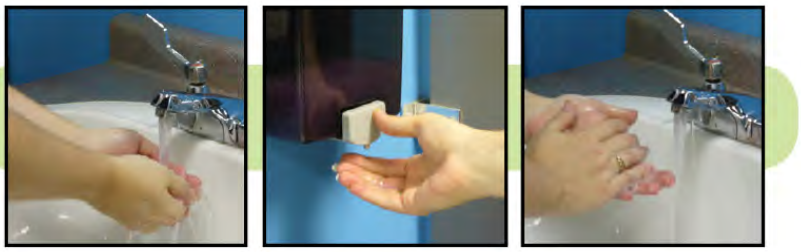
The efficacy of alcohol-based hand hygiene products is affected by a number of factors, including the type of alcohol used, the concentration of alcohol, the contact time, the volume of alcohol used, and whether the hands are wet when the alcohol is applied.

The WHO recommends an alcohol-based formulation for the following reasons:

- To benefit from its evidence-based intrinsic advantages: fast acting and broad-spectrum activity, excellent killing characteristics against microorganisms, lack of potential emergency of resistance;
- To overcome the lack of accessibility to sinks or other facilities to perform hand cleansing actions that require the use of water;
- To improve compliance with hand hygiene by reducing the time required to perform it and the convenience of the method;
- To reduce costs

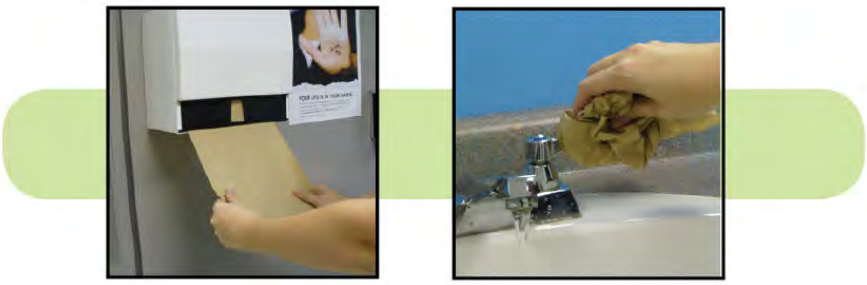
Hand Washing Technique

- Remove jewelry before washing your hands.
- Thoroughly rinse your hands under warm running water.



- Lather with soap. Using friction, cover all surfaces of your hands and fingers.
- Continue for 10-15 seconds. (Make sure you get between your fingers and under fingernails).

- Rinse your hands with warm running water.
- Dry your hands thoroughly with a paper towel.



- Turn off the faucet with a paper towel, if possible, to avoid re-contamination of your hands.
- Use hand lotion from a single-use dispenser to put moisture back into your skin. This is especially helpful for frequent handwashers like health care providers.

When to Wash Your Hands (at a minimum):

- When reporting to work, and before going home.
- Before and after eating and drinking.
- After sneezing, coughing, or blowing your nose.
- After touching your hair, face, nose etc.
- Before and after smoking.
- Before and after each resident contact.
- After touching a resident, or handling his or her belongings.
- Whenever hands are visibly soiled.
- After contact with any blood or body fluids.
- After removing gloves.
- After handling any contaminated items (i.e. linens, soiled diapers, garbage, etc.).

Procedure for Using Alcohol Hand Sanitizer

(70% to 90% isopropanol or ethanol or a combination)

1. The hands should be free of dirt and organic materials.
2. Apply enough alcohol-based hand sanitizer (1.5 mL) to cover the entire surface of the hands and fingers, or a drop about the size of a nickel.
3. Rub the solution until dry.

- The alcohol hand sanitizer may be used routinely for hand hygiene, unless hands are visibly soiled; then soap and water hand washing is required.
- Always wash hands with soap and water after blood or body fluid exposure.
- It is not recommended to routinely wash hands with water after using alcohol hand sanitizer.

When to Use Alcohol Hand Sanitizer

- Only when hands are not visibly soiled.
- After contact with residents' intact skin (as in taking a pulse, blood pressure or repositioning a resident).
- After contact with inanimate objects (including medical equipment).
- Before donning gloves.
- Before entering a resident's room.
- Before exiting a resident's room.
- Ask residents to use prior to eating or participating in group activities.
- Residents may use alcohol hand sanitizer when hands are not visibly soiled.

Advantages of Alcohol Hand Sanitizer

- Active against all bacteria and most clinically important viruses and fungi.
- Rapidly kills microorganisms.
- Spreads quickly across the skin.
- Evaporates quickly.
- Leaves an emollient on hands which prevents drying and cracking.
- No sink rinse required.

Disadvantage of Alcohol Hand Sanitizer

- Very poor activity against bacterial spores, (i.e. *C. difficile*), protozoan cysts and oocysts, and certain non-enveloped (non-lipophilic) viruses (i.e. Norovirus, hepatitis A virus, rhinoviruses, polioviruses, coxsackieviruses).[7]

Example of Hand Washing Poster

Ontario Ministry of Health and Long-Term Care:
http://www.health.gov.on.ca/English/public/pub/pubhealth/pdf/handwash.pdf

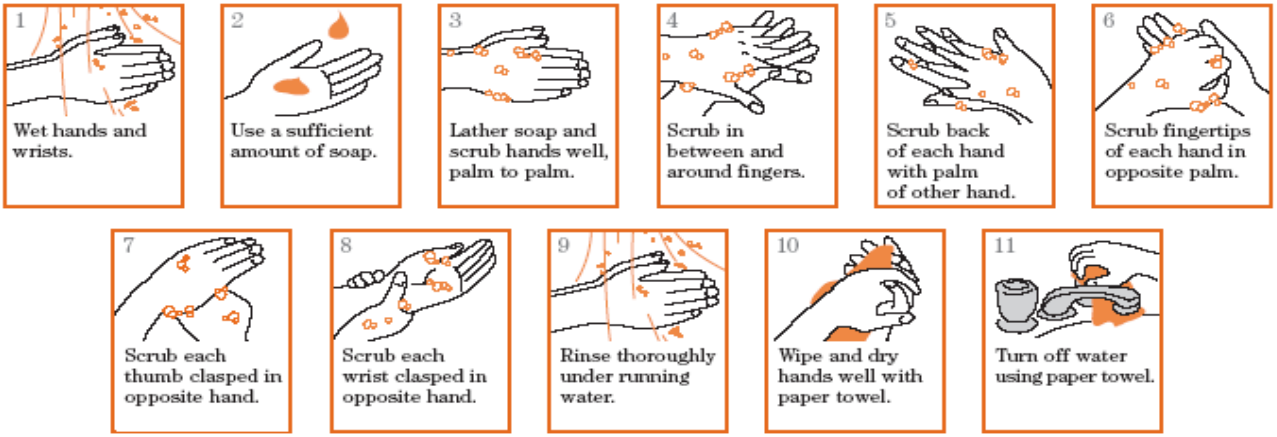
Handwashing

To wash hands properly, rub all parts of the hands and wrists with soap and water or an alcohol-based hand sanitizer. Wash hands for at least 15 seconds or more. Pay special attention to the areas of the hand most frequently missed.

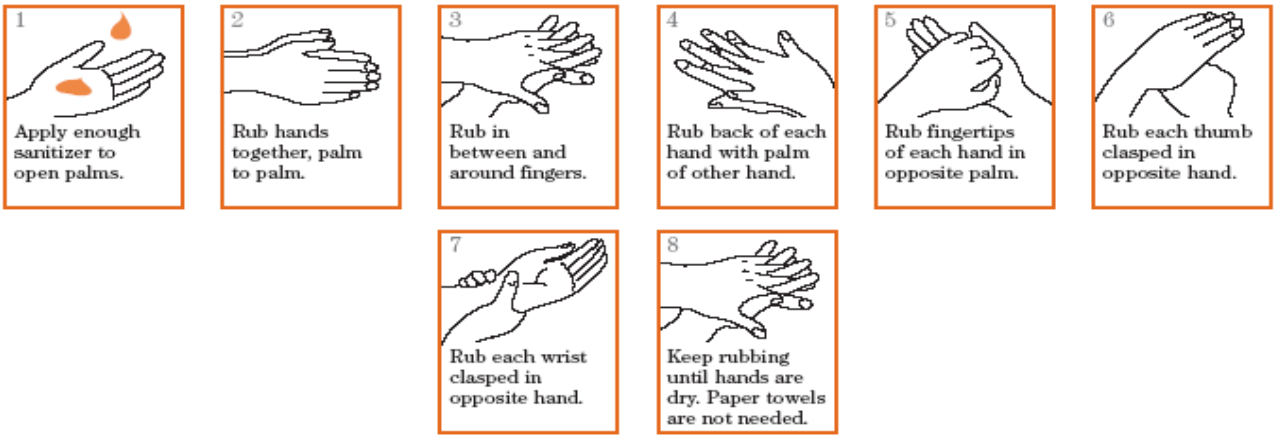
- Keep nails short.
- Avoid wearing rings.
- Avoid artificial nails or nail varnish.
- Remove watches and bracelets.
- Wash wrists and forearms if they are likely to have been contaminated.
- Make sure that sleeves are rolled up and do not get wet during washing.

If you have any questions regarding cuts, sores, allergies or pre-existing skin conditions, call Telehealth Ontario at 1-866-797-0000, TTY 1-866-797-0007.

Handwashing with soap and water



Cleaning with alcohol sanitizers



Ontario

Signage

These signs are provided for reference. Respect for resident's privacy should be taken into consideration whenever possible.

Droplet Precautions

Visitors: Please report to nursing station before entering room.

Resident Placement

Maintain a distance of at least 1 metre between residents

Goggle or Face Shield

Where splashes or sprays of body fluids may occur

Mask–surgical/procedure

Within 1 metre of resident

Hand Washing

Before direct contact with resident
After touching contaminated articles
After direct contact with resident

Resident Transport

Transport for essential purposes only
Resident must wear mask during transport
Notify receiving department

RICN signage found at
http://ricn.on.ca/photos/custom/CSICNfiles/Droplet%20STOP%20Sign_Front%20&%20Back.pdf

Contact Precautions

Visitors: Please report to nursing station before entering room.

Resident Placement

Maintain at least 1 m between residents
Door may remain open

Resident Care Equipment

Dedicate to this resident or disinfect after use

Gown

If contamination or soiling is likely

Goggle or Face Shield

Where splashes or sprays of body fluids may occur

Gloves

On entry into resident's room or bed-space

Hand Washing

After removing gloves
After touching contaminated articles

Resident Transport

Transport for essential purposes only
Notify receiving department

RICN signage found at
http://ricn.on.ca/photos/custom/CSICNfiles/Contact%20STOP%20Sign_Front%20&%20Back.pdf

Droplet / Contact Precautions

Visitors: Please report to nursing station before entering room.

Resident Placement

Maintain at least 1 m between residents
Door may remain open

Goggle or Face Shield

Where splashes or sprays of body fluids may occur

Resident Care Equipment

Dedicate to this resident or disinfect after use

Mask–surgical/procedure

Within 1 m of coughing resident

Gloves

On entry into resident's room or bed-space

Gown

If contamination or soiling is likely

Hand Washing

After removing gloves
After touching contaminated articles

Resident Transport

Transport for essential purposes only
Resident must wear mask during transport
Notify receiving department

RICN signage found at
http://ricn.on.ca/photos/custom/CSICNfiles/Droplet%20Contact%20STOP%20Sign_Front%20&%20Back.pdf

Airborne Precautions

Visitors: Please report to nursing station before entering room.

Resident Placement

Single room – Keep door closed

Goggle or Face Shield

Where splashes or sprays of body fluids may occur

Mask

Special high-efficiency (i.e. N95 respirator) mask upon entering room

Hand Washing

Before direct contact with resident
After touching contaminated articles
After direct contact with resident

Resident Transport

Transport for essential purposes only
Resident must wear mask during transport
Notify receiving department

RICN signage found at
http://ricn.on.ca/photos/custom/CSICNfiles/Airborne%20STOP%20Sign_Front%20&%20Back.pdf

Types of Personal Protective Equipment

Gloves: should be worn when it is anticipated that employees will have contact with blood or other potentially infectious materials. Gloves should be:

- Single use disposable (cannot be washed).
- Removed if torn, punctured, or when their ability to serve as a Simcoer is compromised.
- Vinyl or nitrile to prevent latex allergies in sensitive individuals.[8]

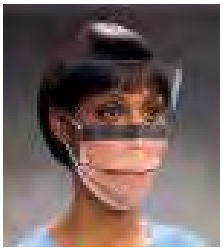
Types of gloves	Suggested use for:	Not recommended for:
Latex • Preferred for tasks with moderate to high risk of exposure to potentially infectious materials and when a non-sterile hand covering is indicated. • Change every 15 to 30 minutes depending on the task or procedure, the amount of blood and fluid exposure and the contact with needles and other sharp instruments.	• Direct resident care involving exposure to potentially infectious materials and for contact with blood and body fluid specimens or items contaminated with blood or body fluids.	• Persons allergic or sensitive to latex and for prolonged contact with high-level disinfectants, such as glutaraldehyde.
Nitrile • Preferred for persons sensitive or allergic to latex AND may be at moderate to high risk of exposure to potentially infectious materials. • Typically has better chemical resistance than latex, especially to hydrocarbon-based products (e.g., products containing mineral oil, petrolatum or lanolin).	• Persons allergic or sensitive to latex and who perform tasks involving prolonged exposure to blood, body fluids, chemotherapeutic agents, cleaning solutions and other chemicals.	• Persons allergic or sensitive to nitrile compounds.
Vinyl • Appropriate for short-term tasks that involve minimal stress on the glove and low risk of exposure to potentially infectious materials.	• Changing bed linens. • Briefly suctioning endotracheal secretions. • Emptying emesis basins. • Discontinuing an IV line. • Handling and preparing food.	• Moderate to high risk of exposure to blood or body fluids. • Preparing, handling or administering chemotherapeutic agents. • Handling chemicals or other caustic agents. • Performing environmental services or housekeeping duties. • Persons sensitive or allergic to vinyl compounds.

Hand hygiene: is recognized as the most important way to prevent the transmission of infection. Hands are to be washed after removing gloves and before taking off other PPE, especially masks and goggles.

Antimicrobial soap: Soap (i.e. detergent) containing an antiseptic agent.

Alcohol-based Hand Sanitizer: 60% to 90% alcohol. They either contain isopropanol, or ethanol, or a combination of the two products.

They are also known as a waterless antiseptic agent. After applying such an agent, the hands are rubbed together until the agent has dried. Alcohols have very poor activity against bacterial spores, (e.g. *C. difficile*), protozoan cysts and oocysts, and certain non-enveloped (non-lipophilic) viruses (i.e. Norovirus, hepatitis A virus, rhinoviruses, polioviruses, coxsackieviruses).[7]



Eye Protection: such as safety glasses, goggles or face shields must provide a barrier to splashes from the side. They are to be worn whenever splashes sprays, splatters, or droplets of blood or other potentially infectious materials may be generated, and where eye, nose, or mouth contamination can occur. Eye protection equipment may be single use disposable and/or washable (but must be cleaned before it can be reused). Prescription glasses are not acceptable as eye protection.

Masks: securely cover the nose and mouth. Masks should be resistant to fluids, substantial enough to prevent droplet penetration, and be able to perform for a minimum of 45 minutes. As a guide, the mask should be changed after eight hours, or sooner if it becomes damaged, soiled or breathing becomes difficult. Leave the contaminated area and dispose of the mask. Masks are not necessarily designed for filtration efficiency, or to seal tightly to the face.[9, 10]

Surgical/procedure masks:

- Prevent large particles (droplets) from being expelled into the environment by the wearer,
- Protect the wearer from splashes of blood or other potentially infectious substances.

High efficiency respirators:

- Protect the wearer from small particles (droplet nuclei) that remain suspended in the air and thus travel long distances.
- HCWs should be educated on the proper way to wear this type of mask and be properly fit tested.

Protective clothing: such as lab coats, aprons, fluid resistant disposable gowns, or similar garments that can protect uniforms as needed.

Examples of Task/Procedure and Personal Protective Equipment

Task	Hand washing	Gloves	Gown/Apron	Mask	Eye Protection
Routine specimen collection	Yes	Yes	Necessary only if splashes/soiling is anticipated		
Soiled linen					
Foley catheter care					
Injection of medication					
Blood/body fluids spills					
Assisting with fallen resident					
Feeding resident					
Dressing changes					
Post Mortem Care					
Cleaning broken glass			Necessary only if splashes/soiling is anticipated. Use a dust pan or tongs.		
Infectious waste handling			Recommended		
Oral care for residents			Strongly recommended		
Cleaning a clogged plumbing drain					
Cleaning equipment					
Volunteer activities		No	Dependent on type of task or potential exposure		

Personal Protective Equipment

Introduction

The use of specialized clothing or equipment referred to as “Personal Protective Equipment (PPE)” is worn by an employee for protection against infectious materials.

Gloves

- Gloves must be used to reduce the risk of health care workers (HCW) exposure to blood, moist body substances, mucous membranes or non-intact skin.
- Gloves are not a substitute for hand hygiene.
- Gloves must be changed between residents, and before and after care activities with the same resident.
- Gloves must be removed and discarded into a waste receptacle after the activity for which they were used.
- Hands may become contaminated through glove defects or during glove removal.
- Hands must be washed upon glove removal.
- It is important to assess and select the best glove for the given task and ensure a snug fit around the wrist.
- A good quality vinyl glove is appropriate for routine resident care activities.
- **A latex or synthetic (i.e. nitrile/neoprene) glove is appropriate when performing tasks that require manual dexterity or involve prolonged exposure to blood, body fluids or chemicals.**
- **A sterile glove is required when performing sterile procedures.**

Gowns

- Long-sleeved, fluid resistant gowns protect the forearms and clothing of the HCW from splashing and soiling with potentially infectious body substances. Gowns are recommended during routine care activities in which this is likely to occur and must be removed immediately after the task. Gowns are not reusable.

Masks

- Masks should be worn where appropriate to protect the mucous membranes of the nose and mouth during procedures and resident care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions.
- Masks should securely cover the nose and mouth.
- Masks should be changed if they become moist or wet, interfere with breathing, are damaged, or visibly soiled. Do not reuse masks.
- Mask should be selected for appropriateness based on required resident care activities.
- Fluid resistant surgical masks are worn to protect the HCW from acquisition of infections transmitted by large respiratory droplets (i.e. febrile respiratory illness, influenza, strep pneumoniae).
- N95 respirator masks are used to protect the HCW from acquiring infections transmitted by small airborne particles (i.e. chicken pox, measles, and tuberculosis). It is essential to ensure the mask has been “fit-tested”.
- Masks should be placed on a coughing resident when outside of their room to protect other residents and staff.

Eye protection:

- Safety goggles, face shields, safety glasses (in addition to masks) or visors attached to masks should be worn by HCWs to protect the mucous membranes of the eyes, during resident care activities likely to generate splashes or sprays of blood, body fluids, secretions or excretions that are a potential source of infection, or within 2 metres of a coughing resident.
- Prescription eye glasses alone should not be considered adequate for eye protection.
- Eye protection may be disposable or if reusable should be cleaned prior to reuse.
- Personally owned eyewear may be cleaned after each use

Personal Protective Equipment

Follow these steps to put on PPE

1. Hand Hygiene

- ☑ Wash hands with soap and water or alcohol based hand rub

2. Gown

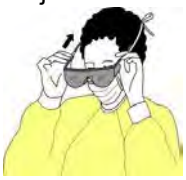
- ☑ Select appropriate type and size
- ☑ Opening is in the back

3. Mask or N95 respirator

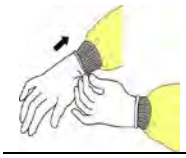
- ☑ Select a mask or fit tested N95 respirator
- ☑ Place over nose, mouth and chin
- ☑ Fit flexible nose piece over nose bridge
- ☑ Secure on head with elastic or ties
- ☑ Adjust to fit
- ☑ N95: Perform a fit check –
  - ☑ Inhale-respirator should collapse
  - ☑ Exhale-check for leakage around face

4. Goggles/Face shield

- ☑ Position goggles over eyes
- ☑ Position face shield over face and secure on brow with headband
- ☑ Adjust to fit comfortably



5. Gloves



- ☑ Select correct type and size
- ☑ Insert hands into gloves
- ☑ Extend gloves over gown cuffs

Reference:

Ontario Ministry of Health and Long-Term Care. Provincial Infectious Disease Advisory Committee. Routine Practices and Additional Precautions In All Health Care Settings. August,2009

Follow these steps to take off PPE

1. Gloves

- ☑ Grasp outside edge near wrist
- ☑ Peel away from hand, turning glove inside-out
- ☑ Hold in opposite gloved hand
- ☑ Slide ungloved finger under the wrist of the remaining glove
- ☑ Peel off from inside, creating a bag for both gloves
- ☑ Discard gloves

2. Gown

- ☑ Unfasten ties
- ☑ Peel gown away from neck and shoulder
- ☑ Turn contaminated outside toward the inside
- ☑ Fold or roll into a bundle
- ☑ Discard or launder

3. Hand Hygiene

- ☑ Prior to touching your face; wash hands with soap and water or alcohol based hand rub

4. Goggles/Face shield

- ☑ Grasp ear or head pieces with ungloved hands
- ☑ Lift away from face
- ☑ Place in designated receptacle for reprocessing or disposal
- ☑ The front of the goggles are considered contaminated

5. Mask or N95 Respirator

- ☑ Untie the bottom then top tie
- ☑ Remove from face using strings
- ☑ Discard

6. Hand Hygiene

- ☑ Wash hands with soap and water or alcohol based hand rub

Linen Handling

Clean Linen

Clean linen should be handled carefully. Hold it away from your body or uniform. If clean linen should come in contact with anything that is contaminated (i.e. the floor, another resident), place it directly into a soiled linen hamper so that it can be rewashed.

Clean linen cart covers should be in place and used at all times to protect clean linens from contamination. Carts should not be placed near soiled linen hampers. A good rule of thumb is to have the carts at least one metre apart, which is the width of a doorway or hallway. Only the exact amount of clean linen required should be brought to a resident's room or ward. Do not store extra linen in the resident's room.

Soiled Linen

Soiled linen can be a source of infection and should be handled carefully.

- Gloves should be worn when handling grossly contaminated laundry.
- Wash hands before beginning every new task. Wash when you remove gloves and before going on to the next task.
- When collecting soiled laundry from the units, remove gloves whenever touching high use objects (i.e. doorknobs, handles, key codes).
- Soiled linen should be held away from the body and uniform.
- Deposit soiled linen immediately into the soiled linen hamper and replace cover.
- Minimize sorting or unnecessary handling of soiled linen.
- Never shake out dirty linen; this may cause germs to become airborne.

When handling soiled linen, laundry department workers should wear PPE, including gloves, and gown or apron to protect the body and uniform. Remove PPE when the task is completed and wash or discard as per facility policy.

Environmental Cleaning and Disinfection

Health care settings are complex environments that contain a large diversity of microbial flora, many of which constitute a risk to the residents, staff and visitors. Transmission of microorganisms within a health care setting is intricate and very different from transmission outside health care settings. High-touch environmental surfaces of the health care setting hold a greater risk than do public areas of non-health care organizations, due to the nature of activities performed.

It is recommended that ALL health care settings refer to the PIDAC Best Practices for Environmental Cleaning for Prevention and Control of Infections, as well as the RICN Environmental Tool Kit for particular direction and information. All policy and procedures within a facility should be based around these two documents.

In the long-term care setting, the role of environmental cleaning is important because it reduces the number and amount of infectious agents that may be present and may also eliminate routes of transfer of microorganisms from one person/object to another, thereby reducing the risk of infection.

Each long-term care facility should have policies and procedures in place to ensure that:

- Cleaning and disinfecting is a continuous event in the facility.
- Cleaning and disinfecting standards, frequency and accountability for cleaning and disinfecting are clearly defined.
- Cleaning and disinfecting schedules ensure that no area or item is missed from routine cleaning.
- Long-term care homes' requirements are met in relation to:
    - Safe disposal of clinical waste.
    - Safe handling of linen.
    - Food hygiene.
    - Pest control.

All long-term care facilities must devote adequate resources to environmental services that include:

- One individual with assigned overall responsibility for the care of the physical facility.
- Adequate human resources to thorough and timely cleaning and disinfection.
- Priority for cleaning and disinfecting given to resident care areas rather than to administrative and public areas.
- Procedures for environmental cleaning during an outbreak and provision for additional environmental cleaning capacity during outbreaks.
- Education and continuing education of cleaning staff.
- Monitoring of environmental cleanliness and results reported back appropriately to staff.
- Supervision of cleaning staff by those who are trained and knowledgeable in cleaning standards and practices.
- Ongoing review of procedures.

Finishes and Surfaces in Areas Where Care is Delivered

Long-term care settings should have policies that include criteria when choosing furnishings and equipment for resident care areas. The ease of cleaning is an important consideration in the choice of materials for floors, ceilings, walls, equipment and furnishings. Materials and finishes must be able to withstand detergents, cleaners and disinfectants. Important characteristics of surfaces include:

- Ease of maintenance and repair
- Cleanability.
- Inability to support microbial growth.

- Surface porosity.
- Absence of seams.

Care and Storage of Cleaning & Disinfecting Supplies

All chemical cleaning agents and disinfectants should be appropriately labeled and stored in a manner that eliminates risk of contamination, inhalation, skin contact or personal injury. An automated dispensing system should be used to ensure integrity of dilution ratios and to eliminate the need for decanting. Calibration of the dispensing system should be regularly monitored. If a refillable bottle is filled with a disinfectant solution, it should never be topped up with fresh disinfectant. Always use a clean, dry appropriately-sized bottle, label the product and date it. The product should be discarded when past the expiry date for stability.

Cleaning equipment requires attention to avoid cross-transmission of microorganisms and proliferation in dirty environments. Tools and equipment used for cleaning and disinfecting must be cleaned and dried themselves between uses. Mop heads should be laundered daily. Cleaning carts should be equipped with a locked compartment for storage of hazardous substances and each cart should be locked at all times when not attended.

Equipment used to clean toilets (e.g. brushes) should not be carried from room-to-room. If feasible, the toilet brush should remain in the room or be one-time use disposable. In multi-bed rooms, a system should be developed for replacement of toilet brushes on a regular basis or as required. When choosing a tool for cleaning toilets, consideration should be given to equipment that will minimize splashing.

Sufficient housekeeping rooms/closets should be provided throughout the facility to maintain a clean and sanitary environment, with at least one room/closet per resident floor. In general, a housekeeping room/closet should be or have:

- A dedicated room, not used for other purposes.
- Maintained in accordance with good hygiene practices.
- Eye protection available.
- Appropriate water supply and a sink/floor drain.
- Well ventilated.
- Suitable lighting.
- Easily accessible.
- Locks fitted to all doors.
- Allow for proper ergonomic movement within the room/closet.
- Never contain personal clothing or grooming supplies, food or beverages.
- Chemical storage that ensures chemicals are not damaged and may be safely accessed.
- Free from clutter to facilitate cleaning.

Routine Cleaning

Cleaning: The physical removal of foreign materials such as dust, soil or organic material like blood, secretions, excretions and microorganisms. Cleaning physically removes, rather than kills, microorganisms. It also reduces the number of organisms and removes foreign materials (i.e. organic residue and inorganic salts) that interfere with sterilization or disinfection. It is accomplished with water, detergents and mechanical action. Thorough and meticulous cleaning is required before any equipment/device may be decontaminated, disinfected and/or sterilized.

Fomites: Objects in the inanimate environment that may become contaminated with microorganisms and serve as vehicles of transmission.

High-Touch Surfaces: High-touch surfaces are those that have frequent contact with hands. Examples include doorknobs, telephones, keyboards, light switches, and wall areas around the toilet.

Hotel Clean: A measure of cleanliness based on visual appearance that includes dust and dirt removal, waste disposal and cleaning of windows and surfaces. Hotel clean is the basic level of cleaning that takes place in all areas of a health care setting.

Hospital Clean: The measures of cleanliness routinely maintained in resident care areas of the health care setting. Hospital clean is 'Hotel Clean' with the addition of disinfection, increased frequency of cleaning, auditing and other infection control measures in resident care areas.

Low-Touch Surfaces: Surfaces that have minimal contact with hands. Examples include walls, ceilings, mirrors and window sills.

Resident Environment: In long-term care, this includes a resident's individual environment such as bed space and bathroom and personal mobility devices such as wheelchair and walker.

Health care facilities may be categorized into two components for the purposes of environmental cleaning: the hotel component and the hospital component. The hotel component is the area of the facility that is not involved in resident care; this includes public areas such as lobbies, common areas, offices, corridors, and elevators and stairwells. The hospital component is the area of the facility that is involved in resident care; this includes resident units (including nursing stations); procedure rooms; bathrooms; and diagnostic and treatment areas.

Environmental cleaning of these two component areas must be resourced differently in terms of cleaning priority, intensity, frequency and manpower. ***From a resident safety and staff safety perspective, hospital clean is the most important cleaning and resource priorities should be centred here.***

Components of Hotel Clean

- Floors and baseboards are free of stains, visible dust, spills and streaks
- Walls, ceilings and doors are free of visible dust, gross soil, streaks, spider webs and handprints
- All horizontal surfaces are free of visible dust or streaks (includes furniture, window ledges, overhead lights, phones, picture frames, carpets etc.)
- Bathroom fixtures including toilets, sinks, tubs and showers are free of streaks, soil, stains and soap scum
- Mirrors and windows are free of dust and streaks
- Dispensers are free of dust, soiling and residue and replaced/replenished
- Stains
- Waste is disposed of appropriately
- Items that are broken, torn, cracked or malfunctioning are replaced

Components of Hospital Clean

Hotel Clean

+

- High touch surfaces in resident care areas are cleaned and disinfected
- Non-critical medical equipment is cleaned and disinfected between residents

+

Cleaning practices are periodically monitored and audited with feedback and education

*Frequency of hospital clean should be determined by a risk assessment

Frequency of Routine Cleaning

The frequency of cleaning and disinfecting in a particular area or department depends on:

- Whether surfaces are high-touch or low-touch.
- The type of activity taking place in the area and the risk of infection associated with it (e.g. care area vs. meeting room).
- The vulnerability of residents housed in the area.
- The probability of contamination based on the amount of body fluid contamination surfaces in the area might have or be expected to have.

Using these criteria, each area or department in a health care setting may be evaluated and assigned a risk score for cleaning purposes. For more information on the risk stratification matrix to determine frequency of cleaning, see the Best Practices for Environmental Cleaning for Infection Prevention and Control in All Health Care Settings, 2012.
http://www.oahpp.ca/resources/documents/pidac/Environmental%20Cleaning%20BP_ENGLISH_FINAL_2012-07-15.pdf

Disinfection

Disinfection: The inactivation of disease-producing microorganisms. Disinfection does not kill high levels of bacterial spores. Medical equipment/devices and surfaces must be cleaned thoroughly before effective disinfection can take place.

Disinfectant: An antimicrobial agent capable of destroying microorganisms on inanimate surfaces. A disinfectant without specified target organisms on the container label is regarded only as a bactericide.

High-level Disinfectant: A disinfectant that destroys vegetative bacteria, mycobacteria, fungi, viruses, but not necessarily bacterial spores.

Low-level Disinfectant: A disinfectant that kills most vegetative bacteria, some fungi and enveloped (lipid) viruses. Low level disinfectants do not kill mycobacteria or bacterial spores.

Chemosterilant: An antimicrobial agent capable of destroying all forms of microorganisms (including bacterial spores) on inanimate surfaces.

Sporicide: An antimicrobial agent capable of destroying bacterial spores.

Virucide: An antimicrobial agent capable of destroying viruses.

Bactericide: An antimicrobial agent capable of destroying bacteria, but not necessarily bacterial spores or mycobacteria.

Germicide: Synonymous with disinfectant.

Fungicide: An antimicrobial agent capable of destroying fungi, including their spores.

Mycobactericide: An antimicrobial agent capable of destroying mycobacteria.

Tuberculocide: Synonymous with mycobactericide.

Disinfectants rapidly kill or inactivate most infectious agents. When choosing a disinfectant, the following factors should be considered:

- disinfectant must have a drug identification number (DIN) from Health Canada
- nature of the item to be disinfected

- innate resistance of expected microorganisms to the inactivating effects of the disinfectant
- amount of organic soil present
- type and concentration of disinfectant used
- duration of contact time required for efficacy at the usual room temperature of the long-term care setting
- occupational health considerations
- environmental protection

Low level disinfectants for environmental disinfection use in all health care settings:

- Alcohols
- Chlorine
- Phenolics
- Quaternary Ammonium Compounds (QUATs)
- Iodophors
- Accelerated Hydrogen Peroxide (AHP)

Reprocessing of Medical Equipment and Devices

Medical equipment/device: Any instrument, apparatus, appliance, material, or other article, whether used alone or in combination, intended by the manufacturer to be used for human beings for the purpose of diagnosis, prevention, monitoring, treatment or alleviation of disease, injury or handicap; investigation, replacement, or modification of the anatomy or of a physiological process; or control of conception.

Reprocessing: The steps performed to prepare used medical equipment/devices for use (e.g. cleaning, disinfection, sterilization).

Single patient use: Medical equipment/device that may be used on a single resident and may be reused on the same resident, but may not be used on other residents.

Single-use/disposable: Medical equipment/device designated by the manufacturer for single-use only. Single-use equipment/devices must not be reprocessed.

It is strongly recommended that catheters, drains, and any other medical equipment with small lumens be designated single-use and not be reprocessed and reused. Needles must be single-use.

The goals of safe reprocessing of medical equipment/devices include:

- Preventing transmission of microorganisms to staff and residents.
- Minimizing damage to medical equipment/devices from foreign material (e.g. blood, body fluids, saline and medications) or inappropriate handling.

Best practices in reprocessing medical equipment/devices must include the following:

- A corporate strategy for dealing with single-use medical equipment/devices.
- Adequate review when new equipment is being considered for purchase.
- Centralized area for reprocessing.
- Training of all staff who do reprocessing.
- Written policies and procedures for each type of medical equipment/device that is reprocessed.
- Validation of cleanliness, sterility and function of the reprocessed equipment/device.
- Continual monitoring of reprocessing procedures to ensure quality.

Factors Affecting the Efficacy of the Reprocessing Procedure

Many factors affect the efficacy of reprocessing, particularly when chemical reprocessing is used. These factors include:

- Cleanliness of the surface of the equipment/device.
  - Many chemical disinfectants are inactivated by organic material.
  - The greater the bioburden, the more difficult it is to disinfect or sterilize the equipment/device.
- Type and concentration of the product.
  - Products must be mixed according to manufacturer's recommendations.
  - Equipment should be dried after cleaning but before immersing in disinfectant to prevent dilution of the disinfectant.
  - Discard solutions on or before expiry dates.
  - Use chemical test strips to assess the efficacy of all disinfectants.
  - Some microorganisms are more resistant to germicidal chemicals.
- Duration and temperature of exposure to the product.
  - Do not exceed the manufacturer's recommendations for maximum exposure time as some chemicals may cause damage to the medical equipment/device.
  - All surfaces of the article must be in direct contact with the disinfectant.
- Physical and chemical properties of the equipment/device being reprocessed or the surrounding environment.
  - Water hardness can affect some disinfectants.
  - Excessive humidity may compromise sterile wrappings.
  - The pH of the solutions may be important as extremes of acidity or alkalinity can limit growth of microorganisms or alter the activity of disinfectants.
  - Materials such as rubber and plastic may require special treatment.
  - Hinges, cracks, crevices on the equipment/device may impede successful disinfection.

Transportation and Handling of Clean and Contaminated Medical Equipment/Devices

Clean medical equipment/devices should be transported throughout the long-term care facility in a manner that prevents contamination prior to use on a resident. If cleaning cannot be done immediately following use, the medical equipment/device should be submerged in tepid water and/or detergent to prevent organic matter from drying on it. Gross soil should be removed immediately at point of use if the cleaning process cannot be completed immediately after use. Soiled medical equipment/devices should be handled in a manner that reduces the risk of exposure and/or injury to staff and residents, or contamination of environmental surfaces. This can be achieved by:

- Using closed carts or covered containers with easily cleanable surfaces for handling and transporting clean and soiled medical equipment/devices.
- Transporting soiled equipment/devices by direct routes to areas where cleaning will be done.
- Cleaning containers or carts used to transport soiled items after each use.

Sterilization of Reusable Medical Equipment/Devices

Sterilization is the elimination of all disease-producing microorganisms, including spores. Prions are not susceptible to routine sterilization. The preferred method for heat-resistant equipment/devices is steam sterilization (pre-vacuum sterilizers are preferred). For items that cannot withstand heat sterilization, certain chemical products are available to achieve sterilization. Boiling, ultraviolet radiation, microwave ovens, and glass

bead sterilizers are not acceptable methods of sterilization. Chemiclaves, which use chemical-vapours to sterilize, are not recommended due to the environmental and occupational risks associated with them.

The sterilization process requires testing, monitoring and auditing including:

- Mechanical monitoring – time, temperature, pressure is recorded.
- Chemical monitoring – each pack must have external chemical indicators that change colour upon exposure to the appropriate sterilant.
- Biological monitoring – spore-laden strips or vials are used to ensure sterility is reached.
- Specific monitoring for specific sterilizers – various sterilizers will require additional quality assurance measures.

Sterility must be maintained until point of use. The shelf life of a sterile package is event related rather than time related. Event related shelf life is based on the concept that items that have been properly decontaminated, wrapped, sterilized, stored and handled will remain sterile indefinitely, unless the integrity of the package is compromised (e.g. open, wet, dirty). Medical equipment/devices purchased as sterile must be used before the expiration date if one is given. Sterile packages that lose their integrity must be re-sterilized prior to use.

Reprocessed medical equipment/devices shall be stored in a clean, dry location in a manner that minimizes contamination or damage. Containers used for storage of clean equipment/devices should be moisture-resistant and cleanable (e.g. cardboard should not be used). Store equipment/devices in a clean, dry, dust-free area (closed shelves), not at floor level, and at least one meter away from debris, drains, moisture and vermin to prevent contamination.

Reference:
Best Practices for Environmental Cleaning for Infection Prevention and Control in All Health Care Settings, 2009.
http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_enviro_clean.pdf

Animals in Long-Term Care Homes and Retirement Homes

Domestic animals may be present in LTCHs and RHs as pets or as partners in pet therapy. Wild animals may occasionally enter the facility by accident. Persons in LTCHs and RHs may receive conflicting medical advice about keeping pets, as animals may pass germs or parasites to people (especially those with a weakened immune system). However, residents may have already developed immunities to their pets' germs, so keeping pets may not actually cause significant health risks. The important point is to encourage and educate residents and staff about hygiene (i.e. hand washing) and sanitary practices after handling pets. The same Routine Practices that help protect against communicable diseases from other humans also apply to pets.[15]

Diseases acquired from pets

Animal diseases can spread to people in LTCHs, RHs and other facilities via bites, scratches, aerosols, parasites on their bodies, accidental ingestion, or contact with contaminated soil, food or water. While domesticated animals such as dogs and cats tend to have fewer risks for disease transmission because of their long histories of living with humans, they can still harbour pathogens such as VRE and MRSA. To reduce the risks of transmitting animal diseases to humans, consider the following: obtain the pet from a reputable domestic source; seek regular veterinary care including recommended vaccines and preventive medications; provide an animal diet of uncontaminated food and water; and provide flea and tick control for the animal. Wild (exotic) animals, even if born in captivity, can present greater health risks to humans because they have less predictable behaviors, there may be fewer effective vaccines, and they may have germs not usually encountered by persons in Ontario or Canada.

Precautions around resident animals [47]

Some LTCHs and RHs are adopting more home-like environments for residents, including allowing residents to keep animals on site. Issues that must be considered before embarking on such a program include:

- Whether the animals will come into direct contact with residents and/or be allowed to roam freely in the facility.
- How the staff will provide care (including feeding) for the animals.
- How to manage residents' allergies, asthma, and phobias.
- Measures to restrict the animals from areas where food is prepared, handled, stored or served, except for service animals which are allowed to access areas where food is served.
- Precautionary measures to prevent bites and scratches.
- Measures to properly manage the disposal of animal feaces and urine, hence preventing environmental contamination.

How to avoid getting sick from your pet

The risk of acquiring diseases from pets can be reduced by paying attention to the following:

- Before selecting a pet, find out from the veterinarian which diseases the animal might be susceptible to. Ask about worms and parasites. Describe to the veterinarian all the environments where a pet will spend time, and other animals with which it will interact.
- Make sure to take good care of the pet and its environment, manage its behaviour, and provide for regular veterinary checkups.
- Ensure that the pet remains healthy, has all vaccinations and preventive medications as needed, and has effective flea and tick control. Ontario owners are required by law to vaccinate their cats and dogs against rabies.
- Don't put anything that the pet has had contact with into the mouth (this includes hair, scales, feathers, droppings or body fluids). That means no licks of the ice cream cone!
- Avoid inhaling the pet's secretions (no sleeping nose-to-nose), dried droppings (which can become airborne dust), litter dust, or water sources. All aquariums should have properly fitted lids.

- Wear disposable gloves and a mask, if necessary, when cleaning up areas soiled by pets. Use cleaning solutions and disinfect the area with an appropriate disinfectant. Dispose of cleaning debris in a plastic bag that is securely fastened.
- Wash hands thoroughly after contact with the pet, its faeces or body fluids, or items it has touched.

Precautions around pet therapy animals

All LTCHs and RHs should develop a policy for pet therapy. This type of program should only be instituted after careful consideration of resident allergies, physical constraints of the building to provide all the pet's needs, and potential fears of residents and staff of particular pets. [47]

It is recommended that: [47]

- All resident, staff or visitor pets that visit the facility, as part of the pet therapy program, be cared for under supervision of a licensed veterinarian. As such, pets should be in good health, be up-to-date with vaccination according to provincial regulations and preventive medications (e.g. heartworm prevention) as determined by a licensed veterinarian. The animals should also be free of any parasites (e.g. fleas and ticks) and should have no sutures, open wounds, or obvious dermatologic lesions that could be associated with bacterial, fungal, or viral infections or parasitic infestations.
- All pets that are invited into the facility should be friendly, not aggressive, and well behaved. They should also be clean (e.g. bathing within 24 hours of a visit) to remove allergens in saliva, dander and/or urine and well-groomed to remove dead hair to minimize allergic responses.
- Some reptiles or amphibians (i.e. snakes, turtles, salamanders etc.) are not appropriate for pet therapy as they are known carriers of *Salmonella* bacteria that are easily transmissible on hands.
- Using non-human primates as therapy animals is not encouraged due to concerns over potential disease spread from and unpredictable behaviour of these animals
- Rodents, exotic species, wild/domestic animals (i.e. wolf-dog hybrids), and wild animals whose behaviour is unpredictable should be excluded from pet therapy.
- Incorporating young animals (under 1 years of age) into the pet therapy program is not encouraged because of issues regarding unpredictable behaviour and fecal/urinal elimination control. Also, the immune systems of very young puppies and kittens are not completely developed, placing the health of these animals at risk.
- No pets are allowed in areas where food is being prepared or served.
- Pets belonging to the facility must have someone assigned to care and maintain regular visits to a veterinarian. Visiting pets should be supervised by persons in good health who know the animals and their behaviour, and who are trained in the activities.

Concerns around service animals

A service animal is an animal trained to provide assistance to a person (an employee, a visitor, or a resident) because of a disability and is not considered a pet. In Ontario, a service animal is an animal for a person with a disability if it is readily apparent that the animal is used by the person for reasons relating to his/her disability, or if the person provides a letter from a physician or nurse confirming that the person requires the animal for reasons relating to the disability. Providers of goods or services are required by law to ensure that a person with a disability accompanied by a service animal is permitted to enter the premises with the animal and to keep the animal with him/her unless the animal is otherwise excluded by law.

There is no evidence to suggest that service animals pose a more significant risk of transmitting infection than people, as long as the animal is healthy, clean, vaccinated, well-behaved and well-trained. Service animals should, therefore, be allowed to enter areas where HCWs, visitors and residents can access without taking additional precautions to prevent disease transmission. Similarly, if a resident with weakened immune system is able to receive visitors without using protective garments or equipment, exclusion of service animals from this area would be unnecessary.

In determining if and when a service animal should be excluded from a particular area, the facility needs to assess if the animal poses a significant risk to the health or safety of other persons in a particular area that cannot be

mitigated or eliminated by modifying policies, practices or procedures. Such assessments should be based on the actual behaviour of the particular animal, not on speculation about how the animal might behave. Consider also the nature of the risk (duration and severity), the likelihood that injury will occur, and whether reasonable modifications of policies, practices or procedures will mitigate the risk. The person with a disability should contribute to the risk assessment. Remember that a person with a disability is entitled to independent access, and a service animal cannot be excluded just because the facility perceives a lack of need for the animal.

While care of the service animal remains the responsibility of the person with the disability, the facility should discuss with the person around an alternate plan of care for the animal in the event the person is unable or unwilling to provide that care. After a service animal leaves the facility, standard cleaning procedures are sufficient for areas occupied by a service animal. For spills of animal urine, feces, or other body substances, follow the facility's procedure for cleaning up blood/body fluid spills for humans.

How to protect yourself from wild animals [17, 18, 19]

It is inevitable that wild animals may come on to the property. Protection from injuries and serious infections can be achieved by paying attention to the following:

- Prevent pets from having contact with wild or sick animals.
- Don't let pets run free. Keep them indoors at night.
- Stay away from unknown dogs and cats and all wildlife, including bats.
- Do not attempt to trap wild animals that are causing damage to the property. Instead, contact a professional animal control officer to remove nuisance animals.
- Do not trap or transport wild animals to a new location. This could spread disease.
- Do not keep wildlife as pets. It may be against the law.
- Report any animals behaving strangely to your local animal control office.
- Do not try to nurse sick animals to health.
- Do not touch dead or sick animals except to bury or dispose of them. Do so carefully, wearing protective gloves and making sure pets cannot get at the carcasses.
- Take measures to discourage wild animals from taking up residence on the property. Cover up potential entrances such as uncapped chimneys, loose shingles, and openings in attics, roofs and eaves. Contact a professional for advice.
- If you come in contact with any wild animals, please contact HNHU Health Connection at 519-426-6170 or 1-877-298-5888.

What should I do if I'm bitten or scratched by any animal? [17, 18, 19]

- Wash the wound immediately with soap and water and contact your family physician.
- If human exposure to a rabid animal is suspected, consult with a doctor or go to the local emergency health care centre as soon as possible.
- Report any incident to HNHU at 519-426-6170 or 1-877-298-5888 (this is required by Communicable Diseases – General Regulation under the Health Protection and Promotion Act, R.S.O. 1990, c.H.7). Include as much information as you can about the animal and if possible, the owner's name, address and phone number. Public health inspectors will use this information to contact the owner, check rabies vaccination certificates and decide what other actions are needed.

Section II - Infection Prevention and Control Surveillance

Surveillance is an essential component of an effective IPC program. It is the systematic method of collecting, consolidating, analyzing, interpreting and disseminating data to those that need to know about the distribution and determinants of a given disease or event for the purpose of action.

Surveillance can be used for the following purposes:

- Required for patient safety and mandatory reporting requirements in Ontario
- To determine the **endemic rate** which is the usual presence of a disease or condition in a specific population of a disease or event. This can be used as a **baseline** which is the number or value used as a comparison.
- To detect and investigate clusters or outbreaks.
- To assess the effectiveness of prevention and control measures and interventions.
- To detect and report diseases to the HNHU as required by legislation.
- To identify organisms and diseases of epidemiological importance such as AROs, MRSA, Tb, and *Clostridium difficile*, and prevent their spread.
- To ensure compliance with agency requirements for accreditation.
- To monitor injuries and identify risk factors for staff.
- To detect a bioterrorist event or an emerging infectious disease.
- To provide data to conduct facility risk assessments.

Surveillance Methodologies

1. **Total House Surveillance:**
   All infections are monitored in the entire population of a LTCH or RH and an overall infection rate is calculated. This total house surveillance infection rate is generally not used as overall rates cannot be adjusted for specific infections or injury risks. It is also not appropriate for measuring trends over time, making comparisons over groups within the facility (or between facilities), or benchmarking.
2. **Targeted Surveillance:**
   This type of surveillance can focus on a particular care area, infections related to medical devices (i.e. urinary tract catheters), or an organism of epidemiological significance (i.e. MRSA). Targeted programs usually focus on **high-risk, high volume** procedures and on those health care-associated infections and adverse outcomes that are potentially preventable.
3. **Combination Surveillance Strategy:**
   In practice, many IPCPs utilize a combination of targeted and modified total house surveillance. An example would be monitoring house wide laboratory reports to detect: MRSA, VRE, reportable diseases, and clusters that may indicate an outbreak or breakdown of IPC practices.

Choosing Indicators (Events) to Monitor

One of the most important steps in designing a surveillance program is the selection of appropriate health related indicators to monitor. A surveillance program should monitor a variety of processes, outcomes, and events that focus on residents and staff.

Process Indicators: Include medication errors; influenza vaccination rates in HCWs and residents; hepatitis B immunization rates in HCWs; and HCWs' compliance with protocols, such as routine practices, additional precautions, and hand hygiene.

Outcome or Event Indicators: Include occurrences of reportable diseases, nosocomial (facility-acquired) infections (i.e. urinary tract, pneumonia, upper respiratory tract, local IV site, or wounds); admission of residents with AROs, resident and HCW infection or colonization with a specific organism (i.e. *C. difficile*, MRSA, VRE, RSV

or rotavirus); resident falls; influenza or tuberculin skin test conversions; or incidents involving HCWs such as sharps injury and blood/body fluid exposures.

Rates: When selecting an event and a population for study, both the number of cases (i.e. persons who have the condition), and the number of the total population at risk for the condition must be identified, if rates are to be calculated. Rates, rather than raw numbers, must be used to accurately track trends over time.

Incidence Density: Calculates the number of cases (or events) per total person-time at risk.

Example:

In a LTCH, there were 12 residents from June 1 to 10 of 2006, 9 residents from June 11 to 20, and 8 residents from June 21 to 30. The number of resident-days for the month of June is calculated as follow:

(12x10) + (9x10) + (8x10) = 290

If there were 2 resident falls in that LTCH in June, the calculation for the fall rate would be:

$$\frac{\#\ \text{of falls in a LTCH in June}}{\#\ \text{of resident-days in LTCH in June}} \times 1{,}000 = \frac{2}{290} \times 1{,}000 = 6.9$$

The rate is expressed as 6.9 falls per 1000 resident-days in the LTCH in June.

Determining Time Period for Observation

Surveillance data for each indicator should be collected consistently and for a defined period such as a month, quarter, or year. It is difficult to interpret rates for events that rarely occur or procedures that are infrequently performed. If this is done, it is necessary to use an observation period that is long enough to accumulate a sufficient number of events in order for the measurement to be valid.

Identify Surveillance Criteria

Surveillance criteria (i.e. case definitions) must be consistently used to accurately trend surveillance data over time within a facility.

An example of a surveillance case definition is:
"Clinically compatible signs and symptoms AND

- Laboratory confirmation (culture or serology) OR
- An epidemiological link to a lab-confirmed case".

This would allow for the tracking of health care-associated infections, occurrences of an event, or compliance with a process. If a case definition is changed, then this should be noted in the surveillance report because the number of cases identified will likely change, which would affect the rate.[20]

Policy for Infection Control Surveillance

There should be a written policy within the facility to closely monitor all residents who exhibit signs/symptoms of infection. All HCWs should notify the IPCP of suspected infections and nursing staff record the information on an Infection Control Surveillance Form (See example below). If this is an unusual infection or if the resident's condition is considered critical, the IPCP should be notified immediately, as well as the Director of Nursing. The physician and the resident's family should also be notified of any change in the resident's condition.

Procedure for Infection Surveillance

When a resident exhibits signs/symptoms of a suspected infection, the nursing staff should:

- Record the resident's name, room number, medications ordered, date started, and any cultures done.
- Follow procedures for notifying the attending physician and family, and begin close monitoring of vital signs, intake and output.
- Document in the narrative nursing progress notes on every shift of the presence or absence of symptoms (i.e. "no cough noted this shift" or "resident c/o burning on voiding x3 this shift"). Continue this documentation until 48 hours after symptoms have subsided, or until 48 hours after the last dose of medications.
- The IPCP will gather further data for infection tracking and reporting, and provide consultation and education as needed. Completed Infection Control reports should be presented at quarterly Infection Control meetings and Medical Staff meetings, and can also be available to all staff for review upon request.[1]

Sample Form: Infection Control Surveillance

Month **Unit**

Supply the following information each month for any resident who:

- You suspect of having an infection
- Has medications prescribed
- Has had a culture obtained or ordered

Site	Residents Names	Room Number	Medication R_X	Date Initiated	Culture Site
Upper Respiratory					
Lower Respiratory/Pneumonia					
Urinary Tract					
IV Associated					
Skin					
Surgical Wound/Pressure Ulcer					
Eye					
Gastrointestinal					
Other					

Sample Form: Monthly Infection Control Report

Average Daily Census	Month:	Year:

By Site of Infection	Unit	Unit	Unit	Unit	Unit	Total Percentage
Upper respiratory infections						
Lower respiratory infections						
Urinary Tract infections						
Catheter-associated UTI						
IV-associated infections						
Skin infections						
Eye infections						
Gastrointestinal						
Other (Sepsis, Vaginal, GU, etc.)						
Total # community –acquired infections						
Total # of chronic infections						
Total # of nosocomial infections						
Unit Census						
Total acute nosocomial infections per 1,000 resident days						

Comments

General:

Nursing Department:

Housekeeping Department:

Laundry Department:

Maintenance Department:

Submitted by: _____ Infection Prevention and Control Professional

Preventing Acute Respiratory Infections (ARIs)

A summary of the Public Health Ontario's *Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection in all Health Care Settings* is presented below. The best practice for acute respiratory infections set out in this document should be part of routine practices for all resident care across the continuum of care including LTCHs and RHs.

1. **Influenza Immunization**.
   - Health care and other service providers in facilities and community settings who, through their activities, are potentially capable of transmitting influenza to those at high risk for influenza complications should be immunized annually.
   - All health care settings should have staff immunization policies.

2. **Case Finding/Surveillance**
   - All health care settings should ensure that they have the ability to identify cases of ARI and to detect clusters or outbreaks of ARIs (see attached screening tool).
   - Once cases are identified, staff should be aware of the need to initiate and maintain IPC practices.

3. **Preventive Practices**
   - Ensure that staff and residents are educated in preventing the spread of ARI, hand washing, staff illness reporting and PPE.
   - Maintain routine cleaning and disinfection practices using approved detergents and disinfectants.

4. **Reporting**
   - Establish procedures for proper notification and reporting.
   - HCWs who develop ARI symptoms must report to Occupational Health and Safety (OHS) or delegate.
   - OHS will report any staff clusters (non-nominally) to IPCP.
   - IPCP will alert OHS if ARI clusters are in residents so staff are then monitored.
   - Employers must report to Joint Occupational Health and Safety Committee or delegate any occupational infection.
   - Employers must report to the Ministry of Labour if a staff member acquired an occupational infection.
   - Employers must also report to the Workplace Safety and Insurance Board (WSIB) within 72 hours if a staff member acquires an occupational infection.
   - Health care settings must report to the medical officer of health (MOH) of the HNHU any residents with a new cough, fever and travel history to a country with a health alert or any contact with someone who has traveled to a country with a health alert.
   - Health care settings are legally required to report to the local MOH when:
     1. The etiology of a acute respiratory infection is a reportable disease.
     2. There is an outbreak or cluster of ARI in the facility.

5. **Evaluation**
   - Compliance with influenza immunization, case finding/surveillance, prevention practices and reporting requirements should be evaluated regularly through a measurable auditing process.

Sample Form: Acute Respiratory Infection Surveillance Form

Resident's Name: Date:

1. Do you have new/worse cough or shortness of breath?
   if **NO** stop here (no further questions)
   if **YES** continue with next question

2. Are you feeling feverish*, or have you had shakes or chills in the last 24 hours?
   if **NO** take temperature ;if > 38°C, continue with next question, otherwise stop (no further questions)
   if **YES**, take temperature and continue with next questions.

*NOTE: Some people, such as the elderly and people who are immunocompromised, may not develop fever.

If the answer to both questions (1) and (2) is "YES", or if the answer to question 1 is "YES" and the recorded temperature is >38°C, initiate droplet precautions, and notify IPCP

3. Is any of the following true?
   Have you traveled within the last 14 days? Where**?_____or
   Have you had contact in the last 14 days with a sick person who has travelled?
   Where**?_____

** **For a current list of countries with health alerts, see**:
http://www.phac-aspc.gc.ca/tmp-pmv/index.html

IPCP should notify HNHU by phone when: case has a positive travel history and/or there is a possible cluster/outbreak

Staff Member: _____ Date: _____

Staff Illness Reporting

The Ontario Hospital Association states “HCWs have a responsibility to their residents and colleagues regarding not working when ill with symptoms that are likely attributable to an infectious disease. This includes staff with influenza-like illness, febrile respiratory illness, gastroenteritis and conjunctivitis”.[21]

All employees should be educated on the importance of reporting illness (including colds, influenza, diarrhea or when the cause is unknown etc). Staff should be reminded that staying home will reduce the spread of infection within the facility. All employees are responsible for promptly reporting any infections they have, or may have, come into contact with to their supervisor. This step is very important in preventing the infection from spreading to residents.

Acute Respiratory Infections –Staff Requirements for Reporting

Provided is a summary of excerpts from The Public Health Ontario’s Provincial Infectious Diseases Advisory Committee (PIDAC) document *Annex B: Best Practices for Prevention of Transmission of Acute Respiratory Infection in All Health Care Settings.* These sections outline the requirements for staff to report Acute Respiratory Infections (ARI).

- All health care settings should establish a clear expectation that staff do not come into work when ill with an ARI, and support that expectation with appropriate attendance management policies.

Note: Attendance management policies must reinforce, rather than act, as a disincentive to staff fulfilling this responsibility. For example, all health care settings should ensure that they:

1. Provide sick leave benefits for all staff (either in the form of paid sick days for full-time staff or compensatory wage rates in lieu of benefits to part time staff).
2. Avoid reward programs for staff that have no sick days.
3. Actively exclude ill staff (i.e. send staff home that arrive at work ill).

- Health care institutions should have established procedures for notifying the IPCP of any clusters of ARI in either staff or residents. (To protect employees’ rights to confidentiality, OHS will report staff clusters non-nominally to the IPCP.)

Note: The purpose of reporting to the IPCP is to ensure that the appropriate precautions are taken to protect residents and staff, and to monitor or manage any possible outbreaks.

- HCWs that develop ARI symptoms should call in and report their condition to OHS or delegate.
- IPCP will alert OHS about any ARI clusters in residents, so OHS can monitor staff. OHS will alert (non-nominally) IPCP of any clusters of ARI among staff.
- Employers are required to report to the Joint Occupational Health and Safety Committee of delegate any occupationally acquired infection.
- If a HCW develops an occupational infection, the employer must report the illness to the Ministry of Labour in accordance with occupational health and safety legislation.
- If a HCW develops an occupational infection, the employer must report the illness to the WSIB within 72 hours.
- Health care setting administrators, laboratories and community/attending physicians should report to the local MOH when:

1. The etiology of an ARI is a reportable disease
2. There is an outbreak or cluster of ARI in any health care facility.

Note: The purpose of reporting to the health unit is to identify any potential outbreaks or emerging illnesses early, so public health measures can be implemented to prevent and manage transmission.
All LTCHs and RHs should track staff illnesses as a preventive strategy to provide ongoing surveillance for potential outbreaks or increased incidences that would indicate a pandemic or other unknown illness in the community. A tracking tool should be created and designed to ensure that staff illness information can be used to identify and follow potential cases of infection and be communicated and shared appropriately, while safeguarding the right to confidentiality.

Sample Form: Employee Screening Tool to Report Acute Respiratory Infections and Other Potential Communicable Diseases

Employee Screening Tool to Report Acute Respiratory Infections and Other Potential Communicable Diseases

Name of Employee: Case ID Number:	Department:
Date:	Shift:

Symptoms:

1. Do you believe you acquired this illness at work? ☐ YES ☐ NO

   If "**YES**" please complete an employee incident report and forward it to Human Resources

2. Do you have a new/worse cough or shortness of breath? ☐ YES ☐ NO

   If "**NO**" (no further questions)
   If "**YES**" continue with the next question.

3. Are you feeling feverish*, or have you had shakes or chills in the last 24 hours?

   ☐ YES ☐ NO

   If "**NO**" ask to take temperature _____ if >38°C, continue with next question, otherwise stop (no further questions).
   If "**YES**" ask to take temperature _____ and continue with next questions.

* Note: Some people, such as the elderly and people who are immunocompromised, may not develop a fever.

If the answer to both questions (1) and/or (2) and (3) is "YES", or if the answer to question (2) is "Yes" and the recorded temperature is >38°C, employee should stay home and procedure for notifying Infection Prevention and Control and OHS should be followed.

4. Are any of the following true?

   Have you traveled within the last 14 days? ☐ YES ☐ NO
   Where? _____

or

   Have you had contact in the last 14 days with a sick person who has traveled?
   ☐ YES ☐ NO
   Where? _____

****for a current list of countries with health alerts see:**
http://www.phac-aspc.gc.ca/tmp-pmv/index.html

Infection Prevention and Control should notify HNHU by phone when: case has positive travel history and/or there is a possible cluster/outbreak

Staff Member Completing Screening: _____ Date:___/___/___

Section III - Respiratory Outbreak Guidelines

Purpose

The purpose of this chapter is to provide information and resources that will assist in the early recognition and control of outbreaks associated with respiratory illness within your facility.

This chapter is organized to address the following topics:

1. Outbreak Process
    - Determining the existence of an outbreak
    - Defining a case and creating a line list
    - Declaring the outbreak, notification responsibilities and instituting outbreak controls
    - Confirming the diagnosis
    - Organizing the data in terms of time, place and person
    - Developing a hypothesis
    - Determining who is at risk
    - Declaring the outbreak over
2. Recommended Precautions
3. Resources
    - Respiratory Outbreak Guideline
    - Filling in a Respiratory Outbreak line list – resident
    - Filling in a Respiratory Outbreak line list – staff
    - Nasopharyngeal Collection Technique
    - How to complete: Public Health Laboratory Test Requisition
    - Respiratory Outbreak Management Checklist

Respiratory Outbreak Process

1. Determining the existence of an outbreak

Suspect an outbreak whenever there are **two or more cases identified within 48 hours in one geographic area with an acute respiratory tract illness** which may include:

- abnormal temperature
- dry cough (new)
- productive cough (new)
- runny nose / sneezing
- nasal congestion / stuffy nose
- sore throat
- hoarseness / difficulty swallowing
- chills
- myalgia
- malaise
- headache
- decreased appetite

Criteria for a potential influenza outbreak:

- One laboratory confirmed case of influenza **OR**
- Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area (i.e. unit, floor) **OR**
- More than one unit having a case of acute respiratory illness within 48 hours.[22]

Criteria for potential respiratory outbreak caused by other organisms (i.e. Mycoplasma, Legionella, Chlamydia):

- Two cases of acute respiratory tract illness occurring within 48 hours in a geographic area **OR**
- More than one unit having a case of acute respiratory illness within 48 hours.[22]

Criteria for a confirmed influenza or respiratory outbreak caused by other organisms:

- Two cases of acute respiratory tract illness within 48 hours, one of which is laboratory confirmed

  OR
- Three cases of acute respiratory tract illness occurring within 48 hours in a geographic area (eg. Unit or floor)

  OR
- More than two units having a case of acute respiratory tract illness within 48 hours.

2. Defining a case and creating a line list

In collaboration with HNHU, develop a working case definition to classify exposed persons as cases or non-cases. A “case definition” can be developed on the data collected from case symptoms using simple clinical criteria: the most common are identified on the line list.

A case definition example:

“Any resident or staff presenting with the 2 or more symptoms of fever, sore throat, cough and runny nose presenting on or after onset date; or any lab confirmed case.”

While each respiratory outbreak requires its own definition, the following general case definitions can be used for reference:

Agent	Clinical case definition for respiratory tract infection
Upper respiratory tract illness – includes common cold, pharyngitis	The resident must have at least 2 of the following (new) symptoms: • runny nose or sneezing • stuffy nose (i.e. congestion)

	• sore throat or hoarseness or difficulty swallowing • dry cough • swollen or tender glands in the neck (cervical lymphadenopathy) • fever/abnormal temperature for the resident may be present, but is not required
Pneumonia	All of the following criteria must be met: • interpretation of a chest x-ray as pneumonia, probable pneumonia, or presence of infiltrate • the resident must have at least 2 of the signs and symptoms described under other lower respiratory tract infection (see below) • other non-infectious causes of symptoms, in particular congestive heart failure, must be ruled out
Other respiratory tract infection (bronchitis, tracheobronchitis)	The resident must have at least 3 of the following: • new or increased cough • new or increased sputum production • abnormal temperature for the resident, or a temperature between ≤35.5°C or ≥37.5°C • pleuritic chest pain • new physical findings on examination (rales, rhonchi, wheezes, bronchial breathing) • one of the following to indicate change in status or breathing difficulty: o new/increased shortness of breath o respiratory rate over 24 per minute o worsening functional or mental status (deterioration in resident's ability to perform activities of daily living or lowering of their level of consciousness) If a cluster of pneumonia or lower respiratory infection cases are suspected, steps must be taken to determine a common causative agent. i.e. Chest x-ray, serology, NP swabs, urine for Legionella antigens, sputum smear/culture etc.

3. Declaring outbreak, notification responsibilities and instituting outbreak controls

Declaring an outbreak, requires meeting the determined amount of time, the health unit's direction and the home's collaboration. Once this decision has been made, signage needs to be put up at all facility entrances.

Notification needs to be initiated to:

1. HNHU – either assigned investigator during regular office hours or the on-call investigator. As soon as HNHU has been notified, control measures will be reviewed as outlined in the resource: "Respiratory Outbreak Management Checklist".
2. Local hospitals – when transfers are necessary. Advise paramedics that the facility is under outbreak precautions.
3. Nursing agencies and volunteer staff who assist at the facility.
4. LTC Compliance Advisor.
5. Coroner's Office – if deaths occur during the outbreak.[22]
6. Notify Ministry of Labour

The facility is required under subsection 27(2) of the Health Protection and Promotion Act, R.S.O. 1990, c.H.7 to report outbreaks to HNHU.[22]

4. Confirming the diagnosis

Once the outbreak has been declared, your facility will be assigned an outbreak number that will be used to identify all lab specimens collected for testing.

The outbreak number is:	**Health Unit –**	**year –**	**outbreak number**
	2234 –	**201x –**	**three digit number**

To identify the causative agent, it is best to collect specimens as early as possible, from residents with acute symptoms (onset within the preceding 24 or 48 hours) and preferably from a resident with the most classical clinical presentation of the suspected illness. The nasopharyngeal swab collection technique is reviewed in the resource: "Nasopharyngeal Collection Technique".[23]
Correct labeling of specimens is needed to ensure testing by the Public Health Lab. These are identified in the resource: "How to Complete: Public Health Laboratory Test Requisition".[23]

5. Orienting the data in terms of time, place and person

Create a histogram (epidemic curve) to help identify whether the outbreak is **common source** or **propagated**:

- **Common source (point source) outbreak:** exposure of a group of persons to a noxious influence that is common to the individuals in the group. When this occurs over a relatively brief period of time and all who fall ill do so within one incubation period, it results in a sudden rise in the number of cases. A classic example is a food poisoning at a common meal.
- **Propagated:** new cases of disease occur over a long period, indicating persistence of the disease source. The epidemic curve is characterized by a plateau. This outbreak is usually by person-to-person spread of a disease in the community or health care setting.

  Place: provides information on the geographic extent of the outbreak but also demonstrates clusters or patterns that provide clues to the causes of the outbreak. Clustering of cases in a section of the facility is consistent with a focal source or person-to-person spread, whereas scattering of cases throughout the facility is more consistent with a disseminated transmission (i.e. common vehicle, common dining hall or the air circulation system).

  Person: strongly related to exposure and risk are the factors of age, sex, occupation and pre-existing health condition.

6. Developing a hypothesis

Organizing the information above may provide information that can suggest:

- The most likely type of illness.
- The most likely vehicle involved.
- Where and how the vehicle might have become contaminated.
- Other possible associations.

7. Determining who is at risk

With the above hypothesis, identify what population is at risk of disease, and educate and incorporate proper infection control measures, including chemoprophylaxis as necessary. Specifically for influenza, timely access to who has and has not received the influenza vaccine is essential. Target groups for vaccine would be staff, residents and non-staff: visitors, nursing students, family members, community and professional groups, contractors etc.

8. Declaring the outbreak over

The outbreak is declared over by the direction of the health unit in collaboration with the facility's agreement. The general requirement of eight (8) days after the onset of the last resident case is based on the influenza illness pattern (incubation 3 days and period of communicability of up to 5 days). Where other agents have been identified, the requirement will be different and consultation is needed with HNHU.[22]

Recommended Precautions

Residents

Restrict cases (ill residents) to their room for at least 5 days after the onset of acute illness or until symptoms have resolved whichever is shorter.[22] For some pathogens the period of communicability may be longer than 5 days, but for practical reasons, this standard of 5 days could be applied to outbreaks caused by respiratory viruses other than influenza. Homes may be requested to isolate ill residents longer than 5 days if current epidemiology suggests a longer period of communicability.

New admissions, re-admission of non-cases and transfers to another LTCH are not recommended during an outbreak. Possible exceptions to this precaution should be done in consultation with HNHU.[22]

Re-admissions of cases who met the case definition prior to transfer are permitted provided appropriate accommodation and care can be provided.[22]

Non-urgent medical appointments made before the outbreak should be rescheduled. Where it is necessary to keep the appointment, consultation and notification should be made with HNHU.[22]

Possible exceptions to the above are reviewed in the readmission/admission section attached.

Refer to Sample Transfer & Return Algorithm for use during Outbreaks

Staff, students, volunteers
Staff, students and volunteers with any respiratory symptoms are to be excluded from work for at least 5 days after the onset of acute illness.

For confirmed influenza outbreaks, ill staff, students or volunteers taking antiviral medication for treatment (not prophylaxis) shall be excluded from work for at least 5 days from onset of symptoms. Staff who remain symptomatic after the 5 day period may return to work if the ICP feels that the staff member can fully participate in work activities without putting the residents or other staff members at risk. If there are staff shortage at the institution, the minimum exclusion period could be as low as 3 days in consultation with the MOH.

During **influenza outbreaks**, **immunized staff** have no restrictions on their ability to work at other facilities, provided the individual changes their uniform between facilities. **Non-immunized staff** that are not receiving prophylactic therapy must wait one incubation period (3 days) from the last day that they worked (at the outbreak facility/unit) prior to working in a non-outbreak facility, to ensure they are not incubating influenza.[22]

During **non-influenza outbreaks**, staff, students and volunteers should be advised not to work at any other facility.[22]

Visitors
Ill visitors should not be permitted in the home. Visitors who are permitted to visit during an outbreak shall be required to:

- Wash hands upon arrival and just before leaving the resident's room.
- Visit only one resident and exit the home immediately after the visit.
- Wear personal protective equipment.[22]

Resources- See Section III

- Respiratory Outbreak Guideline
- Filling out a Respiratory Outbreak line list – resident
- Filling out a Respiratory Outbreak line list – staff
- Nasopharyngeal Collection Technique
- How to complete: Public Health Laboratory Test Requisition
- Respiratory Outbreak Management Checklist

Influenza Outbreak Control Measures

Procedure guidelines under respiratory outbreak are available for reference. In addition, prophylaxis information related to outbreak control should be reviewed.

Prophylactic Use of Amantadine and Oseltamivir (tamiflu)

The MOHLTC states that the H3 and H1 influenza subtypes currently circulating in Ontario are resistant to amantadine but susceptible to oseltamivir (Tamiflu) and zanamivir (Relenza). These antivirals appear to be equally effective in the treatment and prophylaxis of influenza during institutional influenza outbreaks. Oseltamivir is the drug of choice for both treatment and prophylaxis for residents of long term care homes.

Oseltamivir works by preventing the replication of the influenza virus. It is not effective against respiratory infections other than influenza. Therefore, it should only be used for laboratory confirmed influenza infection. Antiviral prophylaxis should not replace annual influenza vaccination.

Health care and other service providers in facilities and community settings who, through their activities, are potentially capable of transmitting influenza to those at high risk for influenza complications should be immunized annually. This group includes emergency responders and those who provide home care.
Vaccination remains our primary tool for the prevention of influenza infection and illness.[24]

When to use oseltamivir (tamiflu)

NACI recommends that neuraminidase inhibitors may be used prophylactically for:

- The control of influenza outbreaks among high-risk residents of institutions.
- Unvaccinated people who provide care for people at high risk during an outbreak.
- The prophylaxis of non-institutionalized people at high risk during an outbreak when vaccine is unavailable, contraindicated, or unlikely to be effective because of a poor match between the vaccine and the circulating viral strain.
- High-risk people receiving late vaccination.
- Antiviral post-exposure prophylaxis in non-vaccinated household contacts of index influenza cases.

During a **respiratory outbreak where influenza has been identified**, tamiflu is recommended for the following:

- Asymptomatic residents regardless of vaccination status.
- Unvaccinated staff.
- Staff regardless of vaccination status when the vaccine is considered a poor match to the circulating strain.[24]

Prophylaxis should continue until the outbreak is declared over; there are no recommended minimum days of prophylaxis (reimbursement through the ODB Program is limited to 6 weeks).

For individuals receiving late vaccination, in order to continue working, prophylaxis must be continued for 2 weeks after the vaccination as coverage by the vaccination does not develop until this time.[24]

Table 1: Oseltamivir (Tamiflu®) Prophylaxis and Treatment Recommendations

PROPHYLAXIS[1]		
Adults (≥ 13 years of age) • with no known renal disease OR • renal disease and creatinine clearance > 30–60 mL/min	75 mg orally once daily 30 mg once daily	14 days or until the outbreak is declared over[2] 10 – 14 days
Adults (≥ 13 years of age) • with known renal disease and creatinine clearance of 10-30 mL/min	30 mg orally every other day	Until the outbreak is declared over
Adults (≥ 13 years of age) • undergoing hemodialysis or whose creatinine clearance <10 mL/min OR • undergoing continuous ambulatory peritoneal dialysis or whose creatinine clearance <10 mL/min	Initial dose of 30 mg administered prior to start of dialysis. To maintain plasma concentration 30 mg after alternate dialysis session. Initial dose of 30 mg administered prior to start of dialysis. Followed by 30 mg administered every 7 days.	10 – 14 days 10 – 14 days
Children (1 to 12 years of age)	≥15 kg: 30 mg orally once daily > 15 kg – 23 kg: 45 mg orally once daily > 23 kg – 40 kg: 60 mg orally once daily > 40 kg: 75 mg orally once daily	

TREATMENT		
Adults (≥ 13 years of age) • with no known renal disease OR • renal disease and creatinine clearance > 30-60 mL/min	75 mg orally twice daily 30 mg twice daily	5 days 5 days
Adults (≥ 13 years of age) • with known renal disease and creatinine clearance of 10-30 mL/min	30 mg orally once daily	5 days
Adults (≥ 13 years of age) • undergoing hemodialysis or whose creatinine clearance <10 mL/min OR • undergoing continuous ambulatory peritoneal dialysis or whose creatinine clearance <10 mL/min	Initial dose of 30 mg administered prior to start of dialysis To maintain plasma concentration 30 mg after alternate dialysis session. A single 30 mg dose prior to start of dialysis	5 days Single dose
Children (1 to 12 years of age)	≥15 kg: 30 mg orally once daily > 15 kg – 23 kg: 45 mg orally once daily > 23 kg – 40 kg: 60 mg orally once daily > 40 kg: 75 mg orally once daily	5 days

Oseltamivir: Additional Important Information

Available Format	30 mg, 45 mg, 75 mg capsule[3]. Powder for oral suspension (12 mg/mL or 6 mg/ml when reconstituted)[5]
Drug Interactions	Probenecid may increase concentrations of one of the active metabolites of oseltamivir
Contraindications	None
Potential Side-effects	Nausea and vomiting occurs in approximately 2.5-10% of all people. It is usually associated with the first dose. It can be effectively minimized by giving oseltamivir with a snack or immediately after a meal.
Pregnancy and Lactation	Oseltamivir should be used during pregnancy and lactation only if the potential benefit justifies the potential risk to the fetus or nursing infant. There is insufficient data currently available regarding possible toxic effects on the fetus. One study suggests that both oseltamivir and oseltamivir carboxylate are detectable in human breast milk.[10]

Table 2: Zanamivir (Relenza®) Prophylaxis and Treatment Recommendations

PROPHYLAXIS		
Persons ≥ 7 years of age	Two 5 mg inhalations (10 mg) once daily	For institutional outbreaks: minimum of 2 weeks, including in vaccinated persons, and up to 1 week after the last known case was identified.[8]
		For community outbreaks: 28 days[9]
TREATMENT		
Persons ≥ 7 years of age	Two 5 mg inhalations (10 mg) twice daily	5 days

Zanamivir: Additional Important Information

Available Format	5 mg powder for inhalation in blister pack Zanamivir must be used with a Diskhaler device. Do not use for nebulization. MAY RESULT IN FATALITY. One disk contains 4 puffs (2 doses). Each disk is inserted into the Diskhaler device that punctures the disk, dropping the powder into a well, which is then ready for inhalation.
Drug Interactions	No known drug interactions
Contraindications	May exacerbate wheezing in asthma or chronic obstructive pulmonary disease (COPD). Many long-term care residents have difficulty coordinating the inhalation required.

	Anyone who has wheezing immediately after a dose should discontinue therapy.
Potential Side-effects	Dosage adjustment is not required in the elderly. No dosage adjustment is recommended for persons with impaired kidney function, given a 5-day course of treatment.

Reference: Appendix A. Oseltamivir (Tamiflu) and Zanamivir (Relenza) Prophylaxis and Treatment Recommendations. MOHLTC, Public Health Division, Public Health Protection and Prevention Branch. December 13, 2010

Admission and Re-admission Recommendations

During an outbreak, it is recommended that the number of residents exposed to the outbreak is limited and that the potential for other illnesses to be introduced to the facility is reduced. The following recommendations are made with reference to: The Ministry of Health and Long-Term Care/Public Health Division and Long-Term Care Homes Branch. A guide to the control of respiratory infection outbreaks in long-term care homes. Ministry of Health and Long-Term Care; 2004

1. **New admissions**
   New admissions of new residents to the **affected unit** during the outbreak is generally not permitted. Where the facility as an entity has declared an outbreak, no new admissions are recommended. If the outbreak is localized and only a specific unit is under additional precautions, then new admissions to un-affected units may be considered in consultation with HNHU.
2. **Readmission of cases**
   The re-admission of residents who met case definition prior to leaving the facility is permitted provided appropriate accommodation and care can be provided.
3. **Readmission of non-cases**
   The re-admission of residents who did not meet case definition prior to leaving the facility is not generally permitted during an outbreak. Changes to this outbreak measure can be made with consultation with HNHU; all readmissions of non-cases should be assessed case by case. Some factors that would need to be in place prior to re-admission would be: confirmation by discussion between HNHU and the facility that:
   i) The outbreak is under control
   ii) The resident's attending physician has agreed to the re-admission based on a review of the current health status of the resident in hospital
   iii) Adequate staff are available at the Long-Term Care Facility to care for the re-admitted resident
   iv) If the outbreak is due to influenza, the resident is protected from influenza by vaccination and/or an anti-viral drug
   v) Appropriate accommodation is available for the returning resident
   vi) The patient/resident or their substitute decision-maker has given informed consent for the return.
4. **Transfers to hospital/other health care facilities**
   When it is necessary to transfer a resident, case or non-case, it is the responsibility of the facility to inform the receiving health care facility and the Provincial Transfer Authorization Centre (PTAC) or alternate transportation service of the facility outbreak status. It is recommended that an outbreak transfer letter be used to communicate information to the receiving ICP to ensure that infection control measures are in place for the resident's arrival.
5. **Transfers to other Long-Term Care Facilities**
   Resident transfers from anywhere in the outbreak facility to another facility is not recommended. Possible exceptions should be done in consultation with HNHU.
6. **Moves within the facility**
   It is recommended that moves within the outbreak facility from unit to unit be discouraged until the outbreak is under control. Special consideration should be made when a resident is to be moved from an unaffected unit to an affected unit. All moves during an outbreak should be done in consultation with HNHU.

Respiratory Outbreak Guideline

Suspect an outbreak whenever there are **two or more cases identified within 48 hours in one geographic area with an acute respiratory tract illness** which include:

- abnormal temperature
- dry cough (new)
- productive cough (new)
- runny nose / sneezing
- nasal congestion / stuffy nose
- sore throat
- hoarseness / difficulty swallowing
- chills
- myalgia
- malaise
- headache
- decreased appetite

Steps to effective respiratory outbreak management:

1. Staff will notify the IPCP for the facility if the above criterion has been met.
2. Create a case definition (i.e. dry cough and abnormal fever or running nose with new productive cough).
3. Start a separate line list for both staff and residents from the information on the line list instructional sheets. *Attachment: "Filling out an Respiratory Outbreak Line list – resident and staff"*
4. Review and implement outbreak management checklist. *Attachment: "Respiratory Outbreak Management Checklist"*
5. The facility Outbreak Management Team (Infection Control Team) will review surveillance information collected and decide if an outbreak is to be suspected. It is the responsibility of the facility, in consultation with HNHU to decide if an outbreak is to be declared.
6. The HNHU investigator must be informed if an outbreak is suspected or declared. If an outbreak is declared, the HNHU will record the case definition and generate an outbreak number.
7. The facility will fax the line list (both resident and staff) and signed outbreak management checklist to the HNHU.

Contact numbers:
Assigned Health Unit Liaison for the Facility:
(weekdays between 0830 hours – 1630 hours) 519-426-6170 or 905-318-6623
After hour's on-call line:
(weekdays between 1630 hours – 0830 hours and weekends): 1-877-298-5888

8. Collect nasopharyngeal specimens from at least three residents with the most recent onset of respiratory symptoms. Ensure that each specimen is appropriately labeled, and has a public health laboratory test requisition form included.
9. Once specimens are collected, contact your HNHU investigator to arrange for swabs to be delivered to the Haldimand Norfolk Health Unit to be taken to Hamilton Public Health Lab. Your HNHU investigator will contact you with the rapid test results once received.
10. The facility will continue to fax the updated line list to the HNHU investigator in Simcoe: (519) 426-4767 or in Caledonia: (905) 765-8905 daily by noon.

    Note: Do not create a new line list each day. Once a person is no longer ill, do not remove their name from the line list or delete symptoms. It is only necessary to indicate their resolution date in the column on the line list.
11. Continue to monitor residents and staff at your facility and add the appropriate information to the line list for the duration of the outbreak.
12. Once the outbreak is declared over, complete summary reports with your HNHU investigator.

Reference
Ministry of Health and Long-Term Care. A guide to the control of respiratory infection outbreaks in long-term care homes [Online]. 2004; Available from: URL: http://www.health.gov.on.ca/english/providers/pub/pubhealth/ltc_respoutbreak/ltc_respoutbreak.pdf

Appendix 1

ENTERIC/RESPIRATORY/OTHER OUTBREAK LINE LISTING FORM

☐ **Staff Line Listing** **Outbreak #: 2234-_____**

☐ **Residents Line Listing**

Name of Facility: _____ Facility Contact: _____ Phone #: _____

Fax #:_____

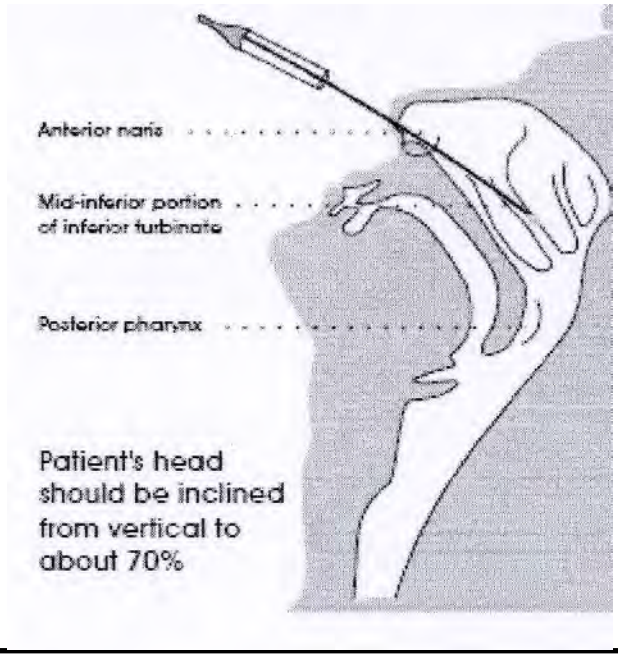
Initial case definition: _____

CASE IDENTIFICATION					SYMPTOMS												SPECIMENS				PROPHYLAXIS / TREATMENT				ONSET DATE OF CASE																		COMMENTS			
NAME	Gender	D.O.B. (y/m/d)	Ward	Room #	Fever	Cough	Runny Nose	Stuffy Nose	Diarrhea	Vomiting	Chills	Cramps	Fatigue	Nausea (congestion)	Sore Throat	Other	Nasopharyngeal (m/d)	Results	Enteric	Results	Flu Vaccine (y/m/d)	Pneumovax (y/m/d)	Antiviral Start date (m/d)	Stop date (m/d)	Day (m/d) & Time																		Pneumonia	Hospitalization	Death	

Nasopharyngeal Swab Method for Respiratory Virus Detection

NASOPHARYNGEAL SPECIMEN COLLECTION

Ontario
Agency for Health Protection and Promotion
Agence de protection et de promotion de la santé



The laboratory needs high levels of organism to culture successfully for respiratory viruses such as RSV, Influenza A & B or parainfluenza virus.

A properly taken nasopharyngeal swab will yield high levels of organism.

1. **Insert flexible nasopharyngeal swab into one nostril.**
2. **Press the swab tip on the mucosal surface of the mid-interior turbinate.**
3. **Briefly rotate the swab once it has been inserted.**
4. **Leave swab in place for a few seconds to absorb material.**
5. **Withdraw swab and insert into transport medium.**
6. **Break swab shaft at score line.**

N.B. The rule of thumb to determine when swab is placed properly; insert swab to one-half the distance from the tip of the nose to the tip of the ear lobe.

Virus Respiratory Kits (6 Packs)

Instructions follow for the collection and transportation of clinical specimens for virus culture and direct antigen testing. The laboratory needs high levels of an organism to culture successfully for respiratory viruses such as RSV, Influenza A & B or Para influenza virus. A properly taken nasopharyngeal swab will yield high levels of organism.

The Virus Respiratory kit consists of: 6 vials of transport media with nasopharyngeal swabs, 6 biohazard bags and 6 Public Health Laboratory Requisitions.

1. Apply appropriate PPE(gloves, gown, mask and face shield) prior to specimen collection
2. Open the sealed pack and aseptically remove the sterile swab from the package - **DO NOT USE EXPIRED KITS.**
3. Collect the specimen from the nose as early as possible following the onset of symptoms.
4. Aseptically remove cap from vial and insert swab in medium.
5. Break swab shaft evenly at the scored line to fit in tube well below the cap and replace cap to vial closing tightly.
6. Label specimen container with resident's full name and date of collection of sample. (Two identifiers are required on the resident sample, and these must also appear on the requisition sheet).
7. Place specimen in the biohazard bag and seal bag.
8. Complete the PHL requisition including the PHL test code, source of specimen, date of onset and collection, two resident identifiers, physician name and clinical diagnosis. Insert the completed requisition in the pocket on the outside of the biohazard bag.
9. To maintain optimum viability, the specimen should be stored and transported at 2 - 8°C or on wet ice to the laboratory for processing within 48 hours of collection.
10. **STORAGE** - Kits should be stored at 2-25°C until used. Improper storage will result in a loss of efficacy.

Reference

Ontario Agency for Health Protection and Promotion, Ontario's Public Health Agency, Specimen Collection Guide, May 2010, Complete Plan, Public Health Laboratories, P. 141, Available from: http://www.oahpp.ca/services/specimen-collection-guide.html

How to Complete: Public Health Laboratory Test Requisition

OC-IDT-2e

Ontario
Agency for Health Protection and Promotion
Public Health Laboratories

Date received yyyy / mm / dd | OPHL No.

General Test Requisition
ALL Sections of this Form MUST be Completed

1 - Submitter

Courier Code

Haldimand-Norfolk
Health Unit
I.D. Team
12 Gilbertson Drive, PO Box 247
Simcoe, ON N3Y 4L1

Clinician Initial / Surname and OHIP / CPSO Number

* After Hours Tel. #
Tel: 1-877-298-5888 Fax:

2 - Patient Information

Health No. * | Sex | Date of Birth: yyyy / mm / dd
Medical Record No.
Patient's Last Name (per OHIP card) * | First Name (per OHIP card) *
Patient Address
* Nursing Home Name and Address
Postal Code | Patient Phone No. ( )
Submitter Lab No.
* Public Health Unit Outbreak No. 2234-____-____ (see OC-IDT-2b)

3 - Test(s) Requested *(Please see test codes on reverse)*

CODE	DESCRIPTION
* V23	Influenza A, B institutional respiratory outbreak
Hepatitis Serology	☐ Immunity ☐ A ☐ B
	☐ Diagnosis ☐ A ☐ B ☐ C

Specimen Type and Site
☐ blood / serum ☐ faeces ☒ Nasopharyngeal
☐ sputum ☐ urine ☐ vaginal smear
☐ urethral ☐ cervix ☐ BAL
☐ other - *(specify)*

Patient Setting
☐ Physician Office/Clinic ☐ ER (not admitted)
☐ Inpatient (ward) ☐ Inpatient (ICU) ☒ Institution

4 - Reason for Test

☒ diagnostic ☐ immune status
☐ needle stick ☐ follow-up
☐ prenatal ☐ chronic condition
☐ immunocompromised
☐ post-mortem ☐ other - *(specify)*

Date Collected: * yyyy / mm / dd
Onset Date: * yyyy / mm / dd

Clinical Information
☐ fever ☐ gastroenteritis ☒ respiratory symptoms
☐ STI ☐ headache / stiff neck ☐ vesicular rash
☐ pregnant ☐ encephalitis / meningitis ☐ maculopapular rash
☐ jaundice
☐ other - *(specify)*
☐ influenza high risk - *(specify)*
☐ recent travel - *(specify)*

Laboratory Result For laboratory use only

Important: On each nasopharyngeal swab vial, ensure it is labelled with:
1. Exact patient name as above
2. Health Unit Outbreak Number

☐ further report to follow

Date reported: yyyy / mm / dd Checked by: Specimen(s) transferred to: Date transferred: yyyy / mm / dd

For HIV, please use the HIV serology form. - For referred cultures, please use the reference bacteriology form.
To re-order this test requisition contact your local Public Health Laboratory and ask for form number 97-44 (09/2009)
Current versions of Public Health Laboratory requisitions are available at www.oahpp.ca/labrequisition

Respiratory Outbreaks

Respiratory Outbreak Management Checklist		**Date Initiated** yy/mm/dd
1.	Notify members of facility Outbreak Management Team (OMT) and facility medical advisor.	
2.	Health Unit notification – ID team, Simcoe or Caledonia	
3.	Respiratory precautions: a) Immunizations rates – staff/residents b) Patient/resident placement – (private room if possible) discuss isolating positive cases to rooms c) Hand-washing – staff/volunteers and residents/visitors - review use of hand sanitizers d) Masking (for staff exposure to respiratory secretions) e) Patient/resident movement within the facility – for essential purposes only – patient/resident should wear mask, as tolerated.	
4	Identify cases and high risk patients/residents/staff Start Respiratory Line List (separate lists for resident/staff cases).	
5.	Cohort nursing/patients, as a facility is able.	
6.	Exclude ill staff members. Exclusionary period to be reviewed with health unit. Have ICP discuss with symptomatic or unimmunized employee the issue of exclusion from working in other facilities.	
7.	Discuss deferring admissions, readmissions and transfers. (pg. 33 of guide 2004)	
8.	Notify relatives. Restrict or limit visiting. Educate visitors re precautions. Post signage indicating outbreak.	
9.	Notify local hospital – Infection Control Practitioner, Emergency Department - CCAC, Nursing agencies, LTC Compliance Advisor.	
10.	Contact Patient Transfer Authorization Centre (for LTCHs and acute care hospitals only).	
11.	Cancel social activities and community meetings/functions.	
12.	Thorough cleaning/sanitizing of equipment (especially respiratory equipment).	
13.	Specimen collection: Number of kits on site _____ Expired? ☐ Yes ☐ No Call ID Team for arrangement of pick-up of specimens.	
14.	Complete documentation – i.e. Line Listing. Daily update of new and resolved cases to be faxed to health unit – ID Team.	

Reviewed with _____ by: _____

Date: _____ yy/mm/dd Copy faxed to facility ☐ Yes ☐ No

ENTERIC and RESPIRATORY OUTBREAK QUICK REFERENCE

Outbreak Definitions

Enteric
Three or more residents presenting with two or more episodes of vomiting and or diarrhea in a 24 hour period with no evidence of a non-infectious cause. (e.g. laxative change)

or

The rate of enteric illness exceeding the normal expected baseline rate for the facility during a specific period of time.

Respiratory
Three or more residents with two or more respiratory symptoms within a 48 hour period in the same geographic area. (e.g. unit, floor)

or

More than two units having a case of acute respiratory illness within a 48 hour period.

or

A laboratory confirmed case of Influenza.

Suspect an Outbreak?

1. Notify the Infection Control Practitioner (ICP) or designate.
2. Create a case definition.
3. Start line lists: one for residents and one for staff.
4. Contact the Haldimand Norfolk Health Unit (HNHU) Infectious Disease Team.
5. Collect specimens on ill residents with recent onset.

HNHU Contact Numbers
Business hours (0830-1630): 519-426-6170
After hours (1630-0830 as well as weekends and holidays): 1-877-298-5888

6. **Enteric**: Use enteric outbreak stool kit, fill three containers provided. **Respiratory**: Use Nasopharyngeal Swabs.
7. Fill out appropriate information on lab submission form and obtain an outbreak number from the HNHU.
8. Contact the HNHU to arrange delivery of samples for transport to the Haldimand Norfolk Health Unit.
9. Ensure appropriate Personal Protective Equipment (PPE) is available and implement Outbreak Control Measures.

Outbreak Control Measures

- Increase hand hygiene for residents and staff.
- Enhance cleaning and disinfecting of all commonly touched surfaces.
- Post outbreak signage at all entrances to the facility.
- Isolate ill residents in their rooms until:
  - **Enteric:** 48 hours symptom free or in consultation with the ICP or the HNHU.
  - **Respiratory:** until 5 days from onset of symptoms or when symptoms have resolved whichever is shorter.
- Exclude ill staff and volunteers from work until:
  - **Enteric:** 48 hours symptom free.
  - **Respiratory**: 5 days from onset of symptoms or when symptoms have resolved whichever is shorter.
- Limit visitors and unnecessary personnel from entering the facility or affected unit.
- Use Personal Protective Equipment (PPE) such as gloves, gowns, and masks when entering an ill resident's rooms. Appropriate signage at resident's door should direct staff about use of PPE.
- Cohort staff providing care to ill residents.
- Reschedule non-urgent appointments if possible.
  Notify receiving facility that your facility is in outbreak.
- Reschedule communal activities and meetings.
- Dedicate resident care equipment to ill residents.
- Provide health teaching to staff and residents

Transfers and Returns between Long-Term Care Homes and Hospitals during Outbreaks

The return of residents to a long-term care home (LTCH) during outbreaks is generally restricted in an effort to protect susceptible individuals from being exposed to respiratory infections such as influenza, and gastrointestinal infections such as norovirus. Returns to LTCHs are not automatically prohibited. They must be considered carefully with respect to resident safety and quality of life, as well as system capacity.

The sample algorithm provided here is a compilation of work done in southwestern, southeastern, and central eastern Ontario involving all relevant partner organizations. The tool is an outline of the process and factors to consider when making decisions about returning residents to their long term care homes after a hospital stay. It outlines opportunities for dialogue among the system partners who are involved in the care of residents: long-term care homes, hospitals, public health units, physicians, and of course, the residents themselves.

The sample algorithm provided here, may be used or adapted by stakeholders across Ontario who may not have documented their processes and considerations for transfers and returns between LTCHs and hospitals during an outbreak. It is intended to promote dialogue of key considerations. Users of this sample may modify it as appropriate to reflect their local practices, and should do so in consultation with relevant partners.

For more information, LTCHs can follow up with their Regional Infection Control Network and public health unit, or see the Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes.

January 18, 2013

Ontario

Sample Transfer & Return Algorithm for use during Outbreaks

Communication for Transfer & Return between Long-Term Care Homes and Hospitals

Ontario

Several contributors from health partnerships in southwestern, southeastern and central eastern Ontario provided valuable insight into the creation of this sample tool

LTCH – Long-Term Care Home
PHU – Public Health Unit

After consultation with PHU, outbreak declared within entire LTCH or within a LTCH unit

↓

Resident transfer to hospital is required

↓

LTCH prepares transfer form with outbreak and line list status

↓

Resident transferred* to hospital with transfer form

↓

Inpatient treatment

↓

Hospital determines resident is ready for transfer back to LTCH

↓

Hospital notifies LTCH of discharge readiness

↓

LTCH determines whether resident is on outbreak line list

→ YES → Consult with PHU → Transfer* resident back to LTCH

LTCH determines whether resident is on outbreak line list → NO → Members of the Outbreak Management Team from the LTCH & PHU should discuss the situation and consider all relevant factors including the following:

- status of the outbreak (attack rate, severity of illness, length of time since last case)
- whether the resident will return to an outbreak affected area of the LTCH
- medical concerns from resident's hospital and LTCH physicians
- whether the resident is protected from the outbreak pathogen through appropriate ihfection prevention and control measures (for influenza this may include vaccine and/or antivirals)
- resident/substitute decision-maker has been given information about the return to LTCH

This list is not exhaustive and is intended to promote dialogue that will result in the most appropriate course of action under difficult circumstances.

Members of the Outbreak Management Team → YES → Transfer* resident back to LTCH

Members of the Outbreak Management Team → NO → Resident stays in hospital → Continued Reassessment → Members of the Outbreak Management Team

* Patient Transfer Authorization Centre authorization may be required

REFERENCES:

1. *Ministry of Health and Long Term Care. A Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes. 2004.*
2. *Ministry of Health and Long Term Care. Control of Gastroenteritis Outbreaks in Long Term Care Homes. 2011.*

DISCLAIMER:

This algorithm is a guideline and does not constitute legal advice. This algorithm does not address all aspects of applicable legislation, including regulations and Orders under applicable legislation. It should be read in conjunction with all applicable legislation, including, but not limited to the Long-Term Care Homes Act, 2007, the Health Protection and Promotion Act, 1990, and the regulations and Orders made under those Acts. In the case of any conflict, the provisions of the legislation, regulations and/or Orders are authoritative.

Section IV - Enteric Outbreak Guidelines

Purpose

The purpose of this chapter is to provide information and resources that will assist in the early recognition and control of outbreaks associated with gastrointestinal illness within your facility.

This chapter is organized to address the following topics:

1. Outbreak Process
    - Determining the existence of an outbreak.
    - Defining a case and creating a line list.
    - Declaring the outbreak, notification responsibilities and instituting outbreak controls.
    - Confirming the diagnosis.
    - Organizing the data in terms of time, place and person.
    - Developing a hypothesis.
    - Determining who is at risk.
    - Declaring the outbreak over.
2. Recommended Precautions
3. Resources
    - Enteric Outbreak Guideline
    - Enteric line list residents
    - Enteric line list staff
    - Enteric Outbreak Management Checklist
    - Stool collection technique
    - Enteric outbreak kit

Enteric Outbreak Process

1. Determining the existence of an outbreak

Suspect an outbreak whenever there are **two or more cases with similar signs and symptoms** (such as nausea, vomiting or diarrhea) **in the same geographical area in a 48-hour period, with no evidence of a non-infectious cause** (such as laxative use, change in tube feed or medication).[25]

Outbreak Definition: **Three or more cases of infectious gastroenteritis in a specific area within a four-day period, or three or more units/floors having a case of infectious gastroenteritis within 48 hours**

2. Defining a case and creating a line list

In collaboration with HNHU, develop a working case definition to classify exposed persons as cases or non-cases. A "case definition" can be developed on the data collected from case symptoms using simple clinical criteria; the most common are identified on the line list.

A case definition example:

"Any resident or staff presenting with 2 or more symptoms of vomiting (at least 2 episodes) with or without diarrhea within 24 hours, or bloody diarrhea with cramps and fever presenting on or after onset date, or any lab confirmed cases."

OR

To be defined as a case of infectious gastroenteritis **at least one** of the following must be met:

- Two or more episodes of unformed (takes the form of its container) or watery stool within a 24-hour period, or two or more episodes of vomiting within a 24 hour period, or
- One episode of unformed or watery stool and one episode of vomiting within a 24 hour period, or
- Both laboratory confirmation of a known gastrointestinal pathogen and at least one symptom compatible with gastrointestinal infection (eg., nausea, vomiting, diarrhea, or abdominal pain or tenderness)

3. Declaring the outbreak, notification responsibilities and instituting outbreak controls

It is the decision of the facility, with the support of HNHU, to declare an outbreak. Once this decision has been made, signage needs to be put up at all facility entrances.[25] A possible kitchen inspection may be arranged at the discretion of HNHU and the Outbreak Management Team (Infection Control Team).

Notification needs to be initiated to:

1. HNHU – either assigned investigator during regular office hours or the on-call investigator. It is the responsibility of HNHU to notify ambulance services and the public health laboratory. As soon as HNHU has been notified, control measures will be reviewed as outlined in the resource: "Enteric Outbreak Management Checklist". [25]
2. Local hospitals – when transfers are necessary. Advise paramedics that the facility is under outbreak precautions. [25]
3. Nursing agencies and volunteer staff who assist at the facility. [25]
4. LTC Compliance Advisor.
5. Coroner's Office – if deaths occur during the outbreak. [25]
6. Notify ministry of labour

The facility is required under subsection 27(2) of the Health Protection and Promotion Act, R.S.O. 1990, c.H.7 to report outbreaks to HNHU. [25]

4. Confirming the diagnosis

Once the outbreak has been declared, your facility will be assigned an outbreak number that will be used to identify all lab specimens collected for testing.

The outbreak number is:	**Health Unit –**	**year –**	**outbreak number**
	2234 –	**201x –**	**three digit number**

It is best to collect specimens as early as possible from at least three residents to identify the causative agent (maximum is 15 specimens).[25] Stool collection technique is reviewed in the resource: "Stool Collection Technique".
Correct labeling of specimens is needed to ensure testing by the Public Health Lab. These are identified in the resource: "Labeling an Enteric Outbreak Kit".[23]

5. Orienting the data in terms of time, place and person

Create a histogram (epidemic curve) to help identify whether the outbreak is **common** or **propagated source**:

- **Common source (point source) outbreak:** Exposure of a group of persons to a noxious influence that is common to the individuals in the group. When this occurs over a relatively brief period of time and all who fall ill do so within one incubation period. It results in a sudden rise in the number of cases and the classic example is a food poisoning at a common meal.
- **Propagated source:** New cases of disease occur over a long period, indicating persistence of the disease source. The epidemic curve is characterized by a plateau. This outbreak is usually a person to person or continuing exposure from a single source spread of a disease in the community, or health care setting.

  Place: Provides information on the geographic extent of the problem but also demonstrated clusters or patterns that provide clues to the causes of the outbreak. Clustering of cases in a section of the facility is consistent with a focal source or person to person spread, whereas scattering of cases throughout the facility is more consistent with a disseminated vehicle or common dining hall or the air circulation system.

  Person: Strongly related to exposure and risk are the factors of age, sex and occupation.

6. Developing a hypothesis

Organizing the information above may provide information that can suggest:

- The most likely type of illness
- The most likely vehicle involved
- Where and how the vehicle might have become contaminated
- Other possible causal relationships

7. Determining who is at risk

With the above hypotheses, identify what population is at risk of disease and emphasize good hand hygiene.

8. Declaring the outbreak over

The HNHU in collaboration with the Outbreak Management Team will declare the outbreak is over in your facility. The general requirement of five (5) days from the last resolved resident case is based on the Norwalk-like illness pattern (3 days communicability and 2 days incubation period). Where other agents have been identified, the requirement will be different and consultation is needed with HNHU.

Prevention and Control Measures

Environmental cleaning

Enhanced environmental cleaning should pay special attention to resident touch surfaces (i.e. bed side rails, telephone, light switches, door handles, faucets, commodes, toilets).[25]
Cleaning should be conducted "clean to dirty" (i.e. items not frequently touched by the resident first to soiled washrooms). Disinfectant solutions should be applied directly to and saturating cleaning cloths rather than spraying or squirting onto the surfaces. Change cleaning cloths and mop heads frequently. Soiled surfaces should

be cleaned of all visible material, and then disinfected with an increased level of solution. Dispose of faeces and vomitus in the toilet. If splashing is likely to occur, cleaning staff should wear utility gloves, a mask or face shield, and gown or other garment to protect clothing.
Soiled linens should be handled as little as possible and with minimal agitation. Laundry should be bagged, promptly, machine washed with detergent at the maximum cycle length, and machine dried. [25]

Accommodation
Whenever possible, the ill resident should be placed in a single room with dedicated toileting facilities. Affected residents may be cohorted under the direction of the Infection Control Team. If the resident must remain in a multi-bed room/unit, signage must indicate that precautions are in place; a supply cart with PPE should be easily accessible; a laundry hamper placed as close to the resident's bed space as possible; and a commode chair should be dedicated for the resident's use. [25]

Contact precautions
In addition to routine practices, initiate contact precautions as soon as possible for residents with diarrhea. Signage indicating that contact precautions are in place should be posted on the door of the resident's room. Gloves and gowns must be donned by all persons prior to entering the room and discarded appropriately upon exit of room. [25]

Hand hygiene
Hand washing with soap and water for 10-15 seconds is required for the prevention of transmission. Alcohol-based hand gels may be used on hands after glove removal; however, soap and water is preferable wherever possible. Remember not to use the resident's designated sink as this will re-contaminate the healthcare worker's hands. [25]

Do not discontinue enteric precautions until the resident has been symptom-free for 48 hours and only with consultation with the HNHU Infection Disease Team.

Recommended Precautions

Residents
Restrict cases (ill residents) to their room until 48 hours symptom-free. [25]
New admissions, re-admission of non-cases and transfers to other LTCHs are not recommended during an outbreak. Possible exceptions to this should be done in consultation with HNHU.

Re-admission of cases who already met case definition prior to transfer is permitted provided appropriate accommodation and care can be provided. [25]

Non-urgent medical appointments made before the outbreak should be rescheduled. Where it is necessary to keep the appointment, consultation and notification should be made with HNHU.
Both transportation services and the receiving facility must be notified that the resident is on contact precautions prior to the transport. All equipment (i.e. stretcher, bed, wheel chair) used for the transfer should be cleaned before use with another resident. [25]

Staff, students, volunteers
All staff, students, volunteers who experience gastrointestinal illness (vomiting and/or diarrhea) need to report this to the IPCP and should be excluded from work until they have been symptom-free for 48 hours. Asymptomatic persons should not work during an outbreak if their stool specimens are positive for the outbreak pathogen. Once the outbreak has been declared over, asymptomatic carriers of the outbreak pathogen may return to work. ([25], [26])

Exceptions are noted below:

1. ***Salmonella* typhi and paratyphi**: Carriers of these organisms must be excluded from food handling and resident care activities until the carrier state is eradicated.
2. **Hepatitis A**: If symptoms or circumstances are suggestive of Hepatitis A, the food handler or HCW must remain off work until 7 days following onset of jaundice. Hepatitis A virus vaccine should be given for post-exposure prophylaxis of contacts (including other food handlers) as soon as possible and preferably within 7 days of exposure to the case (National Advisory Committee on Immunization, 2002). Administration of immune globulin (IG) is recommended for immunocompromised contacts who may not respond fully to the vaccine.

3. ***Norovirus* (Norwalk-like Disease):** Persons with symptoms or circumstances suggestive of *Norovirus* disease must remain off work until symptom-free for 48 hours. In outbreaks of *Norovirus*, patient-staff cohorting should be implemented; persons working in the affected unit should not work in other units or facilities until the outbreak is over.

4. ***Shigella***: Persons with symptoms suggestive of *Shigella* must submit stool specimens for culture. If *Shigella* is cultured, the person must be excluded from food handling and patient care activities until two negative stools have been obtained, 24 hours apart, beginning at least 24 hours after diarrhea ends. If treated with antibiotics, the first stool must be submitted at least 48 hours after the last dose.

5. **Non-outbreak status:** Staff, students, volunteers experiencing vomiting and/or diarrhea of a probable infectious nature should be excluded from work until they have been symptom-free for 24 hours. [26]

   Where the individual is identified as being a symptom-free carrier of: *Campylobacter* sp., *Salmonella* sp. (excluding Typhi and Paratyphi), *E. coli* 0157:H7, *E. histolytica*, *Yersinia* and *Giardia*, they may continue to work as long as hand hygiene is assessed to be good by the IPCP or designate.

Staff working in multiple health care facilities:

"Staff, students, or volunteers, who also work at other health-care facilities, day-care centres and food premises, should advise their employers that they have been working in an institution at which there is an outbreak. They should immediately stop working at all institutions/facilities if they develop symptoms of gastrointestinal illness. Depending on the policies of their employers, staff may be asked not to return to work until 48 hours after their last exposure at the outbreak institution. This period could be modified if the causative agent is known. Staff should change their uniforms between facilities and before leaving the affected facility" [49].

If the outbreak is confirmed as Norovirus:

Staff, students and volunteers working in an affected unit should not work in other units or facilities until the outbreak is over [50].

Visitors

Ill visitors shall not be permitted in the home. Visitors who are permitted to visit during an outbreak shall be required to:

- Wash hands on arrival and just before leaving the resident's room.
- Visit only one resident and exit the home immediately after the visit.
- Wear appropriate PPE.

Resources

- Enteric Outbreak Guideline
- Filling in a Enteric Outbreak line list – resident
- Filling in a Enteric Outbreak line list – staff
- Enteric Outbreak Management Checklist
- Stool Collection Technique
- Labeling an Enteric Outbreak Kit

Enteric Outbreak Guidelines

Suspect an outbreak whenever there are **two or more cases with similar signs and symptoms** (such as nausea, vomiting or diarrhea) **in the same geographic area in a 24-hour period, with no evidence of a non-infectious cause** (such as laxative use, change in tube feed or medication).

Steps to effective enteric outbreak management:

1. Staff will notify the IPCP of the facility if the above criterion has been met.
2. Create a case definition. (i.e. 2x vomiting with/or without diarrhea within 24 hours or bloody diarrhea with cramps and fever).
3. Start a separate line list for both staff and residents from the information on the line list instructional sheets. *Attachment: "Filling out an Enteric Outbreak line list – resident and staff"*
4. Review and implement outbreak management checklist. This document will guide you along as to what general infection control measures should be followed. *Attachment: "Enteric Outbreak Management Checklist"*
5. The facility Infection Control Team will review surveillance information collected and decide if an outbreak is suspected. It is the responsibility of the facility, in consultation with HNHU to decide if an outbreak is to be declared.
6. The HNHU investigator must be informed if an outbreak is suspected or confirmed. If an outbreak is confirmed, the HNHU will record the case definition and generate an outbreak number.
7. The facility will fax the line list (both resident and staff) and signed outbreak management checklist to the HNHU.

Contact numbers:
Assigned Health Unit Liaison for the Facility:
(weekdays between 0830 hours – 1630 hours) 519-426-6170
After hour's on-call line:
(weekdays between 1630 hours – 0830 hours and weekends): 1-877-298-5888

8. Collect stool samples from at least three residents with the most recent onset of enteric symptoms. Ensure that each specimen is appropriately labeled, and has a multiple specimen collection form included.
9. Once specimens are collected, contact your HNHU investigator to arrange for swabs to be delivered to the Haldimand Norfolk Health Unit to be taken to Hamilton Public Health. Your HNHU investigator will contact you if a rapid test result is positive. Note: The only rapid test available for enteric diseases is for Norovirus. The facility will continue to fax the updated line list to the HNHU investigator in Simcoe: (519) 426-4767 or in Caledonia: (905) 765-8905 daily by noon.

   Note: Do not create a new line list each day. Once a person is no longer ill, do not remove their name from the line list or delete symptoms.

   Continue to monitor residents and staff at your facility and add the appropriate information to the line list for the duration of the outbreak.
10. Once the outbreak is declared over, complete summary reports with your HNHU investigator.

Reference
Ministry of Health and Long-Term Care/Mandatory Programs and Services/Public Health Branch. A guide to the control of enteric disease outbreaks in health care facilities. Ontario Ministry of Health; 1993.

Appendix 1

ENTERIC/RESPIRATORY/OTHER OUTBREAK LINE LISTING FORM

☐ **Staff Line Listing** **Outbreak #: 2234-_____**

☐ **Residents Line Listing**

Name of Facility: _____ Facility Contact: _____ Phone #: _____

Fax #:_____

Initial case definition: _____

CASE IDENTIFICATION					SYMPTOMS												SPECIMENS				PROPHYLAXIS / TREATMENT				ONSET DATE OF CASE																						COMMENTS			
NAME	Gender	D.O.B. (y/m/d)	Ward	Room #	Fever	Cough	Runny Nose	Stuffy Nose	Diarrhea	Vomiting	Chills	Cramps	Fatigue	Nausea	Congestion)	Sore Throat	Other	Nasopharyngeal (m/d)	Results	Enteric	Results	Flu Vaccine (y/m/d)	Pneumovax (y/m/d)	Antiviral Start date (m/d)	Stop date (m/d)	Day (m/d) & Time																						Pneumonia	Hospitalization	Death	

Revised June 2009

Enteric Outbreaks

Enteric Outbreak Management Checklist		Date Initiated yy/mm/dd
1.	Notify members of facility Outbreak Management Team (OMT) and facility medical advisor.	
2.	Health Unit notification – ID team, Simcoe or Caledonia	
3.	Enteric precautions: f) Patient/resident placement – (private room if possible) discuss isolation of positive cases to rooms and dedicated toileting. g) Hand-washing – staff/volunteers and residents/visitors. - review use of alcohol based hand rubs h) Disposable gloves, gowns and masks (if indicated for staff exposure to respiratory secretions); discuss contact precautions. i) Patient/resident movement – for essential purposes only.	
4	Identify cases and high risk residents/staff. Start Enteric Line List (separate lists for resident/staff cases).	
5.	Cohort nursing/residents as facility is able.	
6.	Exclude ill staff members. Exclusionary period to be reviewed with health unit. ICP to discuss with symptomatic employee the issue of exclusion from working in other facilities.	
7.	Discuss deferring admissions, readmissions and transfers.	
8.	Notify relatives. Restrict or limit visiting. Educate visitors re precautions. Post signage indicating outbreak in facility.	
9.	Notify local hospital – Infection Control Practitioner, Emergency Department, CCAC, Nursing agencies, LTC Compliance Advisor.	
10.	Cancel social activities and community meetings/functions to prevent mingling of ill and well residents.	
11.	Thorough cleaning/sanitizing of equipment with high level disinfectant.	
12.	Specimen collection: Number of kits on site _____ Expired? ☐ Yes ☐ No Call ID Team for arrangement of pick-up of specimens.	
13.	Complete documentation – i.e. Line Listing. Daily update of new and resolved cases to be faxed to health unit – ID Team.	

Reviewed with: _____ by: _____

Date: yy/mm/dd _____ Copy faxed to facility ☐ Yes ☐ No

Enteric Outbreak Kits

For the collection and the transportation of stool specimens for virus culture, electron microscopy, PCR, and direct antigen testing: bacterial, parasitic and viral agents may produce gastroenteritis. The enteric outbreak kit has been designed for the investigation of these agents simultaneously at the beginning of an outbreak when the causative agent is unknown. The enteric outbreak kit includes three vials, each with a colour-coded cap (green-bacterial examination, white-viral and toxin examination, yellow-parasitology examination,).
Depending on presentation of symptoms in residents and/or staff, HNHU investigator may request that only the green and white topped containers require processing.

Guidelines for Multiple Specimen Collection:

1. Ensure proper PPE (gloves) is applied prior to specimen collection
2. **DO NOT USE EXPIRED KITS**
3. Collect the specimen(s) as early as possible following the onset of symptoms.
4. Label each specimen container and the biohazard bag with the resident's full name, date of specimen collection and the outbreak number.
5. Place one of the four corresponding kit numbered labels located on the biohazard bag on each of the three vials. Ensure one label is left on the bag for laboratory use.
6. Aseptically remove cap from the vial.
7. Stool specimens that have been in contact with the water in the toilet are unacceptable.
8. Infants/Toddlers not toilet trained: Collect the stool from the soiled diaper or from the potty.
9. It is important to fill every vial with the appropriate quality of stool, see table below.

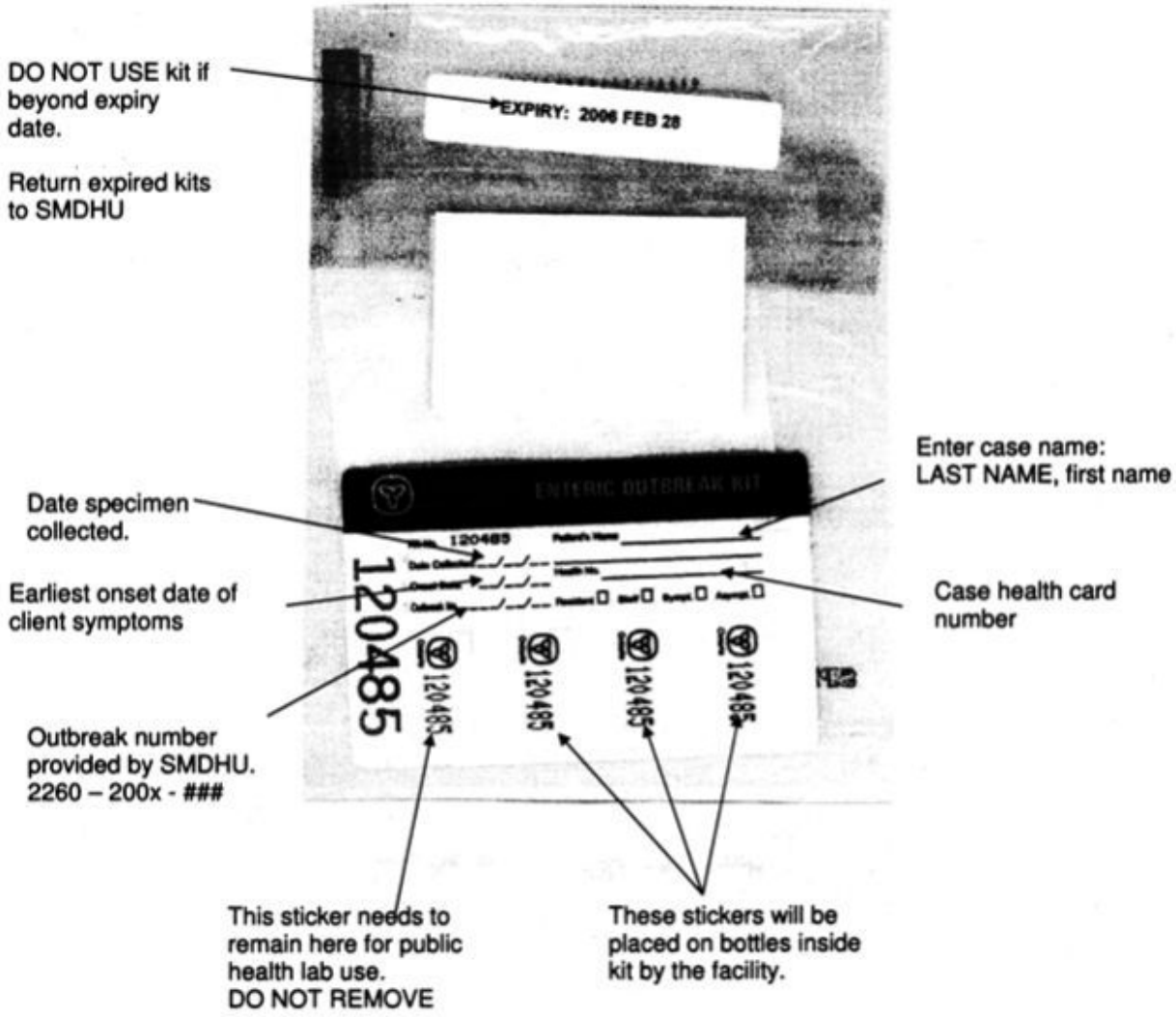
BACTERIA – GREEN VIAL	VIRAL – WHITE VIAL	PARASITE – YELLOW VIAL
Add two to 3 spoonfuls of stool to the vial. Mix into transport solution. Replace cap on vial.	Add stool to indicated line level. Replace cap on vial.	Add stool to indicated line level. Mix into transport medium. Replace cap on vial

10. Place the vials in the biohazard bag and ensure the bag is sealed.
11. Refrigerate the specimens immediately – **Do Not Freeze.**
12. Call the health unit at 1519-426-6170 or 905-318-5367 to arrange for the courier to pick up the sample. After hours 4:30 pm to 8:30 am and on weekends and holidays, the health unit number is Specimens need to be sent to the Lab within 48 hours.

Reference:
Ontario Agency for Health Protection and Promotion, Ontario's Public Health Agency, Specimen Collection Guide, May 2010, Complete Plan, Public Health Laboratories, p.138. Available from: http://www.oahpp.ca/services/specimen-collection-guide.html

Labeling and Enteric Outbreak Kit:

Complete all information on big sticker of kit. DO NOT REMOVE. This is for public health lab use.



Place the case's filled and labeled bottles in this bag. Seal shut by peeling off the blue strip. Refrigerate package (do not freeze) immediately

ENTERIC and RESPIRATORY OUTBREAK QUICK REFERENCE

Outbreak Definitions

Enteric

Two or more residents presenting with two or more episodes of vomiting and or diarrhea in a 24 hour period with no evidence of a non-infectious cause. (e.g. laxative change)

or

The rate of enteric illness exceeding the normal expected baseline rate for the facility during a specific period of time.

Respiratory

Two or more residents with two or more respiratory symptoms within a 48 hour period in the same geographic area. (e.g. unit, floor)

or

More than one unit having a case of acute respiratory illness within a 48 hour period.

or

A laboratory confirmed case of Influenza.

Suspect an Outbreak?

10. Notify the Infection Control Practitioner (ICP) or designate.
11. Create a case definition.
12. Start line lists: one for residents and one for staff.
13. Contact the Haldimand Norfolk Health Unit (HNHU) Infectious Disease Team.

14. Collect specimens on ill residents with recent onset.

HNHU Contact Numbers
Business hours (0830-1630): 519-426-6170
After hours (1630-0830 as well as weekends and holidays): 1-877-298-5888

15. **Enteric**: Use enteric outbreak stool kit, fill three containers provided. **Respiratory**: Use Nasopharyngeal Swabs.
16. Fill out appropriate information on lab submission form and obtain an outbreak number from the HNHU.
17. Contact the HNHU for pick up of samples for transport to the Hamilton Public Health Laboratory.
18. Ensure appropriate Personal Protective Equipment (PPE) is available and implement Outbreak Control Measures.

Outbreak Control Measures

- Increase hand hygiene for residents and staff.
- Enhance cleaning and disinfecting of all commonly touched surfaces.
- Post outbreak signage at all entrances to the facility.
- Isolate ill residents in their rooms until:
  - **Enteric:** 48 hours symptom free or in consultation with the ICP or the HNHU.
  - **Respiratory:** until 5 days from onset of symptoms or when symptoms have resolved whichever is shorter.
- Exclude ill staff and volunteers from work until:
  - **Enteric:** 48 hours symptom free.
  - **Respiratory**: 5 days from onset of symptoms or when symptoms have resolved whichever is shorter.
- Limit visitors and unnecessary personnel from entering the facility or affected unit.
- Use Personal Protective Equipment (PPE) such as gloves, gowns, and masks when entering an ill resident's rooms. Appropriate signage at resident's door should direct staff about use of PPE.
- Cohort staff providing care to ill residents.
- Reschedule non-urgent appointments if possible. Notify receiving facility that your facility is in outbreak.
- Reschedule communal activities and meetings.
- Dedicate resident care equipment to ill residents.
- Provide health teaching to staff and residents

Section V - Reportable Disease Guidelines

Purpose

The purpose of this chapter is to provide information and resources that will assist in the prevention and management of outbreaks associated with reportable diseases within your facility.

Disease Guidelines in this section are driven by Best Practices and are able to steer health care facility protocols. More diseases will be included as information becomes available.

Diseases are collated alphabetically and have a fact sheet followed by a summary of recommendations which provide information geared towards staff in LTCHs. Where possible, teaching and management resources are provided for use by the facility.

Reportable Diseases specified under *Ontario Regulations 559/91* and amendments under the Health Protection and Promotion Act R.S.O. 1990, c.H.7 must be reported to the local Medical Officer of Health.

HNHU is available for consulting with facilities on diseases not included in this section to date.

Included in the Reportable Disease Section:

Reportable Disease	Date developed by Facility
Chickenpox/Shingles	
Streptococcal Disease, Group A invasive (GAS, iGAS)	
Influenza	
Tuberculosis	

Reportable Disease Poster

REPORTABLE DISEASES

Effective from August 29, 2008

Health Protection and Promotion Act
Ontario Regulation 559/91

Acquired Immunodeficiency Syndrome (AIDS)
Amebiasis
Anthrax
Botulism
Brucellosis
Campylobacter enteritis
Chancroid
Chickenpox (Varicella)
Chlamydia trachomatis infections
***Cholera**
Clostridium difficile associated disease (CDAD) outbreaks in public hospitals
Cryptosporidiosis
Cyclosporiasis
Cytomegalovirus infection, congenital
***Diphtheria**
Encephalitis, including:
i. Primary, viral
ii. Post-infections
iii. Vaccine-related
iv. Subacute sclerosing panencephalitis
v. Unspecified
Food poisoning, all causes
Gastroenteritis institutional outbreaks
Giardiasis, except asymptomatic cases
Gonorrhoea
Group A Streptococcal disease, invasive
Group B Streptococcal disease, neonatal
Haemophilus influenza b disease, invasive
***Hantavirus pulmonary syndrome**
***Hemorrhagic fevers, including,**
i. Ebola virus disease
ii. Marburg virus disease
iii. Other viral causes
Hepatitis viral,
i. Hepatitis A
ii. Hepatitis B
iii. Hepatitis C
iv. Hepatitis D (Delta hepatitis)
Herpes, neonatal
Influenza
***Lassa Fever**
Legionellosis
***Leprosy**
Listeriosis
Lyme Disease
***Malaria**
Measles
Meningitis, acute,
i. Bacterial
ii. Viral
iii. Other
Meningococcal disease, invasive
Mumps
Ophthalmia neonatorum
***Paratyphoid Fever**
Pertussis (Whooping Cough)
***Plague**
Pneumococcal disease, invasive
Poliomyelitis, acute
Psittacosis/Ornithosis
Q Fever
***Rabies**
Respiratory infection outbreaks in institutions
Rubella
Rubella, congenital syndrome
Salmonellosis
Severe Acute Respiratory Syndrome (SARS)
Shigellosis
***Smallpox**
Syphilis
***Tetanus**
Transmissible Spongiform Encephalopathy, including:
i. Creutzfeldt-Jakob Disease, all types
ii. Gerstmann-Straussler-Scheinker Syndrome
iii. Fatal Familial Insomnia
iv. Kuru
Trichinosis
Tuberculosis
Tularemia
***Typhoid Fever**
Verotoxin-producing E.coli infection indicator conditions, including Haemolytic Uraemic Syndrome (HUS)
West Nile Virus
***Yellow Fever**
Yersinioisis

Note: Although not on the list of reportable diseases, Human Immunodeficiency Virus (HIV) infection is also reportable to the Medical Officer of Health since it is the agent responsible for AIDS.

Updated July 2011

Simcoe: 519.426.6170 or 905.318.6623
Caledonia: 905.318.5367
www.hnhu.org • info@hnhu.org

HealthUnit
Haldimand-Norfolk

Insert Facility Logo Here

Chickenpox/Shingles - Facts

What is Chickenpox/Shingles?

Chickenpox (varicella) is a highly contagious disease caused by the varicella-zoster virus (VZV). It manifests as a generalized disease with sudden onset of slight fever and development of a rash and/or blisters. The virus establishes latency after primary infection.[1]

Shingles (herpes-zoster) is a reactivation of latent varicella. The rash and blisters are mainly restricted to one part of the body. However, immunocompromised persons may develop wide spread infection.[2]

How is the virus spread?

Chickenpox: Person-to-person transmission occurs by direct contact with blister fluid or by airborne transmission from coughing, sneezing, spitting etc.

Shingles: Direct contact with zoster lesions. Wide spread shingles may be transmitted by the airborne route, because of high viral shedding. *Shingles is not as infectious as chickenpox*.[3]

* Indirect contact with articles that are freshly soiled with discharges from vesicles and mucous membranes can also serve as a source of transmission.

It is possible to get chickenpox from someone with shingles, but you cannot catch shingles from someone with chickenpox.

Pregnant Workers

Adults, immunocompromised persons, and pregnant women in particular, may develop severe complications. If someone is pregnant that has not had chickenpox believes they have been exposed to VZV, it is recommended that they contact their physician as soon as possible. The physician can give the person a special type of immune globulin (VZIG) injection to help prevent the person from developing a severe infection. If a person catches chickenpox shortly before or after giving birth, their newborn may develop severe infections.[4]

Prevention and Control Measures

Immunity and Vaccination

- The immune status of all health care workers should be determined from reliable history or from vaccination.[2]

Evidence of immunity may include:

- *A self-reported history of chickenpox or shingles.*
- *Written documentation of vaccination.*
- *Evidence of physician-diagnosed chickenpox or shingles.*
- *Laboratory evidence of immunity (IgG) or laboratory confirmation of disease.*

- Reports of mild infections should not be considered as having a valid history of disease because many other diseases may mimic mild VZV infections.
- For those with a negative history of VZV, serological testing should be done.[5]
- Vaccination consists of two doses of varicella vaccine administered 4-8 weeks apart.
- ***Only health care workers known to be immune may be assigned to care for residents with chickenpox or shingles.***[5]

Resident Placement

Residents with disseminated or localized shingles that cannot be covered should be placed in a private room. A private room should also be provided for residents who contaminate the environment or those who do not (or cannot be expected to) maintain appropriate hygiene. Private rooms should be maintained until lesions have crusted over and no new lesions are forming.

Additional Precautions to Routine Practices

Gloves should be worn when entering the room of a resident with chickenpox or shingles. Gloves should be removed promptly after use, before touching non-contaminated items and environmental surfaces, and before coming in contact with another resident. ***Wash hands immediately after removing gloves***. Signage indicating that contact precautions are in place should be posted on the door of any room of a suspected or confirmed chickenpox/shingles resident.

Gowns should be worn if direct contact with resident or environmental surfaces is likely.

Masks are not required for immune health care workers.

* Health care workers who are susceptible, but who absolutely must enter the room of residents should wear an N95 mask.

Resident-Care Equipment

Handle used resident-care equipment in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other residents and environments. Ensure that reusable equipment is not used for the care of another resident until it has been cleaned and reprocessed appropriately. Ensure that single-use items are discarded properly.

Environmental Control

Ensure that there are adequate procedures for the routine care, cleaning, and disinfection of environmental surfaces, beds, bedrails, bedside equipment, and other frequently touched surfaces. *VZV is susceptible to low level disinfectants*.

Linen

Handle, transport, and process soiled linen in a manner that prevents skin and mucous membrane exposures, contamination of clothing, and transfer of microorganisms to other residents and environments.

Visitors

Susceptible visitors should be educated and discouraged from resident contact until lesions have dried and crusted over. Immune visitors should be aware of contact precautions and the importance of hand-washing. If visitor is providing care for the resident, the appropriate PPE should be used.

Exclusion

Health care workers with acute chickenpox or wide spread shingles must be excluded from work until lesions are dried and crusted. Health care workers with localized shingles may work in most cases if appropriate barriers are used (i.e. all lesions are covered and good hand-washing technique is used before resident care). Health care workers with shingles may not work with immunocompromised residents until lesions have dried and crusted.

Outbreak Management

An outbreak should be considered if more than one resident on the same unit meets the criteria for diagnosis. Facility should liaise with the Haldimand Norfolk Health Unit if an outbreak is suspected.

Reporting Requirements

Suspected or confirmed cases of chickenpox must be reported to the Haldimand Norfolk Health Unit.

There are no reporting requirements for shingles.

References

1. Pickering LK, editor. Red Book: 2003 report of the committee on infectious diseases. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006:711–25.
2. Atkinson W, Hamborsky J, McIntyre L, Wolfe S [editors]. Epidemiology and prevention of vaccine-preventable diseases. 9th ed. Washington DC: Centers for Disease Control and Prevention; 2006.
3. Health Canada. Prevention and control of occupational infections in health care. An infection control guideline. Can Commun Dis Rep 2002;28S1:1-26.
4. Canadian Paediatric Society. Well beings. 2nd ed. Ottawa: Canadian Paediatric Society; 1999:162-64.
5. Ontario Hospital Association, Ontario Medical Association Joint Communicable Disease Surveillance Protocols Committee. Varicella/Zoster (chickenpox/shingles) surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2006.

Insert Facility Logo Here

Group A Streptococcal Infections (GAS) – Facts

What is Group A Streptococcal infection (GAS)?

Group A streptococci are bacteria that can live in the throat or on the skin of healthy individuals. Sometimes, GAS can cause illnesses such as "strep throat," scarlet fever or impetigo (a skin infection). Rarely, GAS can cause serious infections such as necrotizing fasciitis (flesh eating disease) and streptococcal toxic shock syndrome.

Necrotizing fasciitis (NF) is an infection that destroys fat or muscle tissue. Streptococcal Toxic Shock Syndrome (STSS) is an infection that leads to damage to organs like your kidneys, liver and lungs.

How is it spread?

GAS is spread by direct contact with secretions from the nose and throat of infected persons or by contact with infected wounds or sores on the skin. It is not spread by household items like plates, cups or toys. You are most infectious when you are sick. You cannot spread GAS after taking antibiotics for 24 hours.

What are the symptoms of GAS infections?

Early signs and symptoms include fever, muscle aches and pains, chills, sore throat, dizziness, confusion and a rash.

How soon do symptoms of GAS infections appear?

It varies. Consult with the Occupational Health and Safety department of your facility when you think you might have acquired GAS infections.

How is GAS infection diagnosed?

To diagnosis GAS, you must have a “swab” of the area that may be infected by the bacteria. For example: for “strep throat” a swab of the tonsils and/or the back of the throat is done. Blood and other body fluids can also be tested.

What is the treatment for GAS?

GAS infections are treated with antibiotics. It is always important that you finish all the pills.

How do I protect myself and others?

You can help stop the spread of GAS infections by washing your hands after coughing or sneezing, before preparing foods and before eating. If you have a sore throat, see your doctor to find out if you have “strep throat”. Wash your wounds and watch for signs of infection. If you see it turning red, draining or it gets sore and you have a fever, see your doctor.

If someone close to you is diagnosed with either NF or STSS, you might need to take antibiotics to prevent you from getting sick.

For more information please call the ID Team in the Simcoe Office at (519) 426-6170.

Revised 2006-06-15

References:
1. Ontario Ministry of Health/Public Health Branch/Disease Control Service. Guidelines for management of contacts of cases of invasive groups A streptococcal disease (GAS) including streptococcal toxic shock syndrome (STSS) and necrotizing fasciitis. Ontario Ministry of Health; 1995.
2. Ontario Nursing Home Association. Guidelines for the management of residents with group A streptococcus infection in long-term care facilities. Markham (ON): Ontario Nursing Home Association; 1997.
3. Ontario Hospital Association, Ontario Medical Association Joint Committee on Communicable Diseases Surveillance Protocols Committee. Group A streptococcal disease surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2004.

Group A Streptococcal Disease

The most current Canadian guidelines are:

i) Public Health Agency of Canada: CCDR Canada Communicable Disease Report – Supplemental Guidelines for the Prevention and Control of Invasive Group A Streptococcal Disease. Volume 32S2 October 2006.

ii) Ontario Hospital Association and the Ontario Medical Association and approved by the Minister of Health and Long-Term Care: Group A Streptococcal Disease Surveillance Protocol for Ontario Hospitals Publication #309: September 2004, Revised September 2010

Surveillance

Group A Streptococci can cause a variety of diseases such as: strep throat, pharyngitis, pneumonia, impetigo, pyoderma, wound infections, scarlet fever, rheumatic fever, erysipelas, cellulites, paronychia, otitis media and conjunctivitis. (i)

A diagnosis of invasive Group A streptococcal disease (iGAS) is confirmed when a specimen from a normally sterile site on culture presents with *streptococcus pyogenes*, or *s. pyogenes*. Only confirmed cases of iGAS disease are reportable to the Haldimand Norfolk Health Unit (HNHU) under the Health Protection and Promotion Act (HPPA) and should be included under facility infectious disease surveillance.

The Canadian Guidelines for the Prevention and Control of Invasive Group A Streptococcal Disease defines a severe case of iGAS as a case of streptococcal toxic shock syndrome (STSS), soft-tissue necrosis (including necrotizing fasciitis , myositis or gangrene), meningitis, GAS pneumonia, other life-threatening conditions or a confirmed case resulting in death.(i) This classification of severe iGAS is important, as close contacts of these severe cases may be recommended chemoprophylaxis (see Management of Contacts section below).

Management of Group A Streptococcal Disease (i)

When a single case of iGAS has been identified and reported, it is recommended that the following occur:

1. The facility will be contacted by a HNHU investigator and a meeting held with occupational health, infection prevention and control and HNHU in attendance.
2. Upon recommendation of the Medical Officer of Health and the Infection Control Committee, it may be recommended that the facility initiate an outbreak investigation if any of the following are identified during investigation:
   i) if in the past 4 – 6 weeks there are culture-confirmed cases of GAS disease and any suggested cases of non-invasive or invasive GAS infection, including skin and soft tissue infections (eg. pharyngitis and cellulites) and excluding pneumonia and conjunctivitis not confirmed by culture,
   ii) if a potential source of infection from outside the facility can be identified (eg. regular visits from children),
   iii) if the incidence of GAS infections is higher than normal for the facility.

Long-term care facility outbreak definition	**An incidence rate of culture-confirmed invasive GAS infections of >1 per 100 residents per month or at least two cases of culture-confirmed invasive GAS infection in 1 month in facilities with fewer than 200 residents or an incidence rate of suggested invasive or non-invasive GAS infections of >4 per 100 residents per month.**

If there is found to be an excess of GAS infection identified, the following actions need to be considered:

- All patient/resident care staff should be screened for GAS with throat, nose and skin lesion cultures. Where the LTCF has less than 100 beds, all residents should be screened for GAS. In LTCF with 100 beds or greater, screening can be limited to all residents within the same care unit as the infected case and contacts of the case if necessary, unless patient and care staff movement indicate a broader approach.
- Anyone colonized with GAS should receive chemoprophylaxis.

- Non-patient/resident care staff should be asked about possible recent GAS infections. Those with a positive history should be screened for GAS, and those who are positive should be treated with antibiotics.
- All GAS isolates should have further typing done to identify an outbreak strain. Culture for test of cure is indicated for individuals found to have the outbreak-related strain, particularly if there is epidemiologic evidence indicating that contact with the individual is significantly related to illness. Culture for test of cure is not needed for individuals infected with a strain of GAS not related to the outbreak.
- All GAS positive residents and staff should be re-screened, including throat and skin lesions, 14 days after chemoprophylaxis has been started; this should be followed by screening at 2 and 4 weeks after the first re-screening. If the person is found to be positive, a second course of chemoprophylaxis should be offered. If the person remains colonized after the second course of chemoprophylaxis, discontinue chemoprophylaxis unless the facility continues with GAS infection issues.
- Active surveillance for GAS infection should be initiated and continued for 1-2 months.
- Appropriate specimens should be taken for culture when persons are identified by the surveillance program.

If no excess is identified, especially if there is evidence of an outside source of infection for the index case, then active surveillance alone for 2-4 weeks to establish the absence of additional cases is warranted.

Isolation

1. Residents can participate in facility activities after receiving 24 hours of antibiotic treatment. If the resident is symptomatic (runny nose/cough) and is carrying GAS in his/her nose or throat, evaluation of his/her participation should be made until these symptoms have subsided. Consult with your HNHU liaison.
2. Colonized staff can return to work after 24 hours of antibiotic treatment provided all of the following 3 conditions do not exist: [ii]

    iv) one or more residents have an invasive GAS infection; AND

    v) the staff person has failed to decolonize; AND

    vi) it has been epidemiologically shown that the staff member is transmitting the GAS to residents and other staff.

Management of Contacts [i]

Once a resident has been diagnosed with iGAS, HNHU and LTCH will work collaboratively to identify close contacts and plan next steps. Where a close contact has been identified, preventative prophylaxis (chemoprophylaxis) must be offered.

To be considered a close contact, any of the following criteria must be met [i] :

- Household contacts of a case that have spent at least 4 hours/day on average (or 20 hours/week with the case) in the previous 7 days preceding the onset of symptoms and up until 24 hours following the start of appropriate antibiotic treatment.
- A person who shared the same bed or had sexual relations with the case from 7 days prior to illness until 24 hours following the start of antibiotic treatment.
- Any person whose nose or mouth has been contaminated with oral/nasal secretions of a case, (eg. Mouth-to-mouth resuscitation, open mouth kissing*) or unprotected direct contact with an open skin lesion of the case.
- Injection drug users who have shared needles with the case.

Direct mucous membrane contact should be **prolonged** for a person to be considered a close contact. This would exclude kissing with closed mouths and sharing of utensils, water bottles or cigarettes. [i]

Patients/residents who share a room with a patient/resident with invasive GAS are not considered exposed and do not need prophylaxis unless they fit close contact requirements. [i]

Chemoprophylaxis should only be offered [(i)]

- **To close contacts of a confirmed severe case, that is, a case of STSS, soft-tissue necrosis (including NF, myositis or gangrene), meningitis, GAS pneumonia, other life-threatening conditions or a confirmed case resulting in death;**

  AND

- **If the close contacts have been exposed to the case during the period from 7 days prior to onset of symptoms in the case to 24 hours after the case's initiation of antimicrobial therapy.**

Chemoprophylaxis of close contacts to a severe iGAS should be administered as soon as possible, preferably within 24 hours of case identification but is still recommended for up to 7 days after the last contact with an infectious case.

Close contacts of all confirmed cases (regardless of severity) should be educated to signs and symptoms of invasive GAS disease and be advised to seek medical attention immediately should they develop febrile illness or any other clinical manifestations of GAS infection within 30 days of diagnosis in the index case.

Clinical manifestations of pharyngeal and iGAS infection include:

- influenza-like symptoms (fever, rapid breathing, aches, pains and chills
- sore throat, localized severe muscle pain
- dizziness, confusion, diffuse rash or abdominal pain.

The purpose of chemoprophylaxis is to eradicate nasopharyngeal colonization of GAS and potentially prevent disease in close contacts and transmission to other people.

Recommended Chemoprophylaxis Regimens for Close Contacts(i)

Drug	Dosage	Comments
First-generation cephalosporins: cephalexin, cephadroxil, cephradine	**First line.** Children and adults: 25 to 50 mg/kg daily, to a maximum of 1 g/day in 2 to 4 divided doses × 10 days	Recommended drug for pregnant and lactating women. Should be used with caution in patients with allergy to penicillin. Use of cephalosporins with nephrotoxic drugs (e.g. aminoglycosides, vancomycin) may increase the risk of cephalosporin-induced nephrotoxicity.
Erythromycin	**Second line.** Children: 5 to 7.5 mg/kg every 6 hours or 10 to 15 mg/kg every 12 hours (base) × 10 days (not to exceed maximum of adult dose) Adults: 500 mg every 12 hours (base) × 10 days	Erythromycin estolate is contraindicated in persons with pre-existing liver disease or dysfunction and during pregnancy. Sensitivity testing is recommended in areas where macrolide resistance is unknown or known to be ≥ 10%.
Clarithromycin	**Second line.** Children: 15 mg/kg daily in divided doses every 12 hours, to a maximum of 250 mg po bid × 10 days Adults: 250 mg po bid × 10 days	Contraindicated in pregnancy. Sensitivity testing is recommended in areas where macrolide resistance is unknown or known to be ≥ 10%.
Clindamycin	**Second line.** Children: 8 to 16 mg/kg daily divided into 3 or 4 equal doses × 10 days (not to exceed maximum of adult dose) Adults: 150 mg every 6 hours × 10 days	Alternative for persons who are unable to tolerate beta-lactam antibiotics.

Prevention and Control Measures [(i)]

1. Staff must wash hands before and after every contact with the resident with GAS; wash hands after leaving the affected resident room; wash hands after glove use. Handwashing must be reviewed with visitors, students and volunteers.
2. Gloves should be worn during dressing changes (skin lesions) and when in contact with blood or other body fluids. Gloves should be changed after contact with infectious material; even with the same resident and should be discarded upon leaving the affected resident's room.
3. Shared equipment must be cleaned with a hospital approved disinfectant between resident use.
4. Unsoiled linen can be placed in the regular laundry hamper. If heavily soiled with body fluids; place items in a plastic bag before placing in laundry hamper.
5. Personnel can reduce the risk of infection by the consistent use of Routine Practices in all direct patient/resident care activities, including wearing a mask and eye protection or face shield when contamination with respiratory droplets is likely. [(i)]
6. In addition to routine practices, apply additional precautions specifically contact and droplet precautions when caring for patients/residents with suspected or known invasive GAS disease until 24 hours of effective antimicrobial therapy has been completed.[(ii)]

Health Care Workers (HCWs) are to be encouraged to report illness possibly due to GAS (pharyngitis, impetigo, wound or skin infections, cellulites) and comply with policies regarding not working when ill. An occupationally acquired GAS infection is reportable to the Ministry of Labour and WSIB[(ii)]

Insert Facility Logo Here

Streptococcal Pneumonia invasive – Facts

What is Streptococcal Pneumonia?

Streptococcal Pneumonia also referred to as "strep pneumo" is a contagious disease caused by the streptococcal pneumonia bacteria. People can carry these bacteria in their nose and throat and be healthy.

While this bacteria can be found anywhere on the body, it often appears in the lungs and causes pneumonia which is a type of lung infection. Rarely, these bacteria can be found in the tissue surrounding the brain and spinal cord causing pneumococci bacterial meningitis. The bacteria can also be found in the blood causing pneumococcal bacteraemia, and when this happens it is referred to as *invasive* pneumococcal disease.

How is the bacterium spread?

This bacterium is found in the nose and throat of individuals. You may get strep pneumo by breathing in droplets which are either coughed or sneezed into the air by someone who is infected with the bacteria. The bacteria are also transmitted by touching objects contaminated by these droplets and then touching your eyes, nose or mouth.

What are the symptoms of Streptococcal Pneumonia?

Symptoms of pneumococcal disease vary depending on the illness caused by the bacteria.

In adults, symptoms of pneumonia are often quite sudden and include chills, fever, shortness of breath or rapid breathing, chest pain that is worsened by breathing deeply and a productive cough.

Symptoms of pneumococcal meningitis include stiff neck, fever, confusion and disorientation, and photophobia (sensitive to light).

Invasive streptococcal pneumonia is characterized by symptoms similar to pneumonia and meningitis, and includes joint pain, fever and chills.

Prevention and Control Measures

You can help stop the spread of pneumococcal disease by washing your hands regularly, especially after you cough or sneeze and prior to preparing and consuming food.

Do not share cigarettes or drink from the same glass, water bottle or straw as others and ensure you throw used Kleenex into the garbage.

Immunity and Vaccination

The best way to prevent invasive pneumococcal disease is to ensure you have received all your immunizations.

Polysaccharide pneumococcal vaccine is recommended for all individuals ≥ 65 years of age.[1]

If the immunization status is unknown in individuals ≥ 65 years of age the vaccine should be administered.[1]

Recommended strategies for delivering pneumococcal vaccine to individuals at higher risk of invasive disease include:

- Ensuring that all recipients receiving the influenza vaccine are also immunized with the pneumococcal vaccine, if appropriate. Providers should have both vaccines available to facilitate concurrent administration.
- Implementing standing orders for pneumococcal immunization of residents on admission to long-term care facilities if appropriate.

For further information regarding the pneumococcal vaccine please contact the Vaccine Preventable Disease program at (519) 426-6170.

Resident-care Equipment

Ensure that reusable equipment is not used for the care of another resident until it has been cleaned and reprocessed appropriately. Ensure that single-use items are discarded properly.

Environmental Control

Ensure that there are adequate procedures for the routine care, cleaning, and disinfection of environmental surfaces, beds, bedrails, bedside equipment, and other high touch surfaces.

Visitors

High risk visitors such as those ≥ 65 years of age, people with underlying medical conditions and infants should be counseled as appropriate to wash their hands regularly and appropriate PPE should be used.

Outbreak Management

When an outbreak occurs, regardless of the etiological agent, major emphasis must be placed on careful surveillance, early diagnosis and immediate treatment of suspected cases. Discussion should take place immediately with Medical Officer of Health re: epidemic control measures.

References

1. National Advisory Committee on Immunization. Canadian Immunization Guide. 7th ed. Public Health Agency of Canada; 2006.

American Public Health Association. (2004). Pneumococcal pneumonia. Heymann, D.L. (Ed), Control of communicable diseases manual (18th ed., pp. 413-417). Washington DC: American Public Health Association.

Insert Facility Logo Here

Influenza - Facts

What is influenza?
Influenza or "flu" is a highly contagious respiratory tract infection that affects people of all ages and causes moderate to severe illness. As many as 1,500 Canadians, mainly seniors, die of influenza complications each year.

How is it spread?
You may get influenza by breathing in droplets coughed or sneezed into the air by someone who has influenza, or by transferring those droplets to your eyes, nose and mouth after touching objects contaminated by those droplets.

What are the symptoms?
Symptoms may include: sudden onset of high fever lasting 3-4 days, severe headache, severe aches and pains, severe fatigue lasting 2-3 weeks or more, runny stuffy nose, sore throat, coughing and chest discomfort that can become severe, and sometime sneezing.

How soon do symptoms of influenza appear?
Short, usually one to three days.

How is it diagnosed?
A swab from the back of your nose can be tested by a laboratory to confirm if you have influenza.

What is the treatment for influenza?
You can lessen the discomfort of influenza by treating the symptoms:

- Treat fever and muscle aches with aspirin, acetaminophen or ibuprofen. Never give aspirin to children under 18 years of age as they may develop a severe condition of the liver and central nervous system
- Drink plenty of fluids to prevent dehydration
- Rest

Some drugs are available to treat or prevent influenza when taken before or within 48 hours of developing symptoms. Most people recover in a week or ten days. Some are at greater risk for severe and longer-lasting complications, such as pneumonia. These include very young children, people over 65, and people with medical conditions, e.g. chronic respiratory disease, heart or kidney disease, diabetes or a depressed immune system due to cancer, HIV infection, or some other cause.

How do I protect myself and others?
The best protection is to get an annual influenza vaccination. The vaccine is considered safe for pregnant or breastfeeding women. People who have had a severe allergic reaction to eggs or a previous dose of the vaccine should not receive influenza vaccination. If in doubt, check with your doctor.

How well does the vaccine work?
When the vaccine strains match the circulating strain, the vaccine can prevent influenza illness in 70% to 90% of healthy young adults, as well as protecting the elderly against severe complications, hospitalizations and death.

Who should get the vaccine?
The National Advisory Committee on Immunization recommends that the following people receive influenza vaccine: people at high risk of influenza-related complications, including people with selected chronic health conditions; people capable of transmitting influenza to those at high risk of influenza-related complications, including health care and other care providers in facilities and community settings who, through their activities, are potentially capable of transmitting influenza to those at high risk of influenza complications.

Who should not get this vaccine?

The National Advisory Committee on Immunization advises that influenza vaccine should not be given to:

- People who have had an anaphylactic reaction to a previous dose
- Persons with known hypersensitivity to eggs or chicken
- Adults with serious acute febrile illness usually should not be vaccinated until their symptoms have subsided
- Persons who have previously experienced severe lower respiratory symptoms (wheeze, chest tightness, difficulty breathing) within 24 hours of influenza vaccination, an apparent allergic reaction to the vaccine, or any other symptoms that raise concern regarding the safety of re-immunization should seek expert opinion on the risks and benefits of vaccination.

What are the side effects of this vaccine?

You might notice fever, fatigue and muscle aches within 6-12 hours after your shot. This may last a day or two. Some people develop red eyes, cough, wheezing, chest tightness, difficulty breathing, or sore throat. In most cases, the symptoms are mild and disappear within 48 hours.

A rare but possible side effect is Guillain-Barré syndrome (GBS). This disease attacks the nervous system and results in weakness and abnormal sensations. Most people recover fully. There is no evidence that the flu vaccine causes Alzheimer's disease. The vaccine cannot cause influenza because it does not contain live virus.

When should I seek medical attention?

You should seek medical attention if you believe you have had a reaction to a vaccine, such as:

- Hives, swelling of the mouth and throat, throat constriction, difficulty swallowing or breathing, wheezing, chest tightness, paleness, weakness, dizziness or fast heart beats or anaphylactic shock occurring within 48 hours after receiving influenza vaccination
- Shock-like collapse, high fever or convulsions occurring within three days after receiving influenza vaccination
- Arthritis occurring within 42 days after receiving influenza vaccination
- Generalized hives, residual seizure disorder, brain disease (encephalopathy), inflammation of the brain (encephalitis) or any other reactions in unexpected or unusual severity occurring within 15 days after receiving influenza vaccination, OR

Are there any special concerns about influenza vaccine?

Long-Term Care Homes and Retirement Homes cannot force health care workers (HCWs) to be immunized. However, if there is an influenza outbreak in the facility, the Ministry of Health and Long-Term Care Guide to the Control of Respiratory Infection Outbreaks in Long-Term Care Homes states that the facility should not allow unvaccinated HCWs, who refuse to take appropriate antiviral medication to prevent influenza, to provide resident care or carry out activities where they have a potential to acquire or transmit influenza.

Who can I talk to if I have more questions?

Consult with the Occupational Health and Safety department of your facility, or call the Haldimand Norfolk Health Unit at 519-426-6170 or 905-318-5367

References:

1. National Advisory Committee on Immunization. Statement on influenza vaccination for the 2006-2007 season. Can Commun Dis Rep 2006 Jun 15;32(ACS-7).
2. Ministry of Health and Long-Term Care/Public Health Division. Influenza vaccine fact sheet [Online]. 2005 Aug 12 [cited 2006 Aug 16]; Available from URL:http://www.health.gov.on.ca/english/public/program/pubhealth/flu/flu_05/factsheets/flu_vaccine.pdf

Insert Facility Logo Here

Tuberculosis – Facts

What is tuberculosis?

Tuberculosis is an infectious disease caused by the bacteria *Mycobacterium tuberculosis*. The bacteria usually cause infection in the lungs, but they can affect other parts of the body. It is possible to carry the bacteria in your body without being sick for many years. This is called "latent tuberculosis" or "tuberculosis infection". A small percentage of people may progress from latent to "active" disease and become sick.

How is tuberculosis spread?

The tuberculosis bacterium is spread through the air when someone who is sick with tuberculosis (active disease) in their respiratory system (i.e. lungs, trachea, larynx etc.) expels air, such as with coughing or talking. Transmission requires close, frequent and prolonged exposure to become infected. Tuberculosis is not easily transmitted. People with latent tuberculosis cannot transmit the bacteria to others.

Risk factors for tuberculosis:

- Past history of TB or close contact to a person with active tuberculosis disease.
- Travel/residence in endemic country - especially in last 2 years.
- Co-infected with HIV/AIDS.
- High risk medical conditions - such as transplantation, silicosis, chronic renal failure, diabetes and carcinoma of the head and neck.
- Aboriginal communities with high rates of latent tuberculosis infection or TB disease.
- Occupational exposure – such as hospitals, shelters, correctional staff and volunteers.
- Homeless or under housed.
- Congregate living arrangements – such as nursing homes, correctional facilities.
- Elderly who have lived through an era where TB was common.
- Substance abuse.
- Cigarette smoker (1ppd).
- Diabetes (all types).
- Persons receiving treatment with glucocorticoids.
- Receiving tumor necrosis factor (TNF)- alpha inhibitors.

What are the symptoms?

- Unexplained weight loss.
- Loss of appetite.
- Fever.
- Fatigue.
- Night sweats.
- Cough, chest pain, shortness of breath, coughing up blood.

How soon do symptoms of tuberculosis appear?

Not everyone who is infected with tuberculosis will get sick. Talk to your doctor to discuss your risk factors.

How is it diagnosed?

Medical tests such as a Mantoux skin test, chest x-ray and sputum test can determine if a person has been exposed to the bacteria and has latent tuberculosis, or has active tuberculosis disease.

What is the treatment for tuberculosis?

Tuberculosis infection and disease is treatable and can be cured by antibiotics.

How do I protect myself and others?

There is no vaccine available against tuberculosis infection. Practicing airborne precautions and wearing a properly fitted N95 mask will decrease the risk of transmission. If you think you might have been exposed to tuberculosis in your facility, talk to your occupational health department. Unless you are sick with active tuberculosis in your respiratory system, you are not able to spread tuberculosis.

References:
1. Public Agency of Canada (2007). Canadian Tuberculosis Standards (6th Edition), pg. 425, 132. http://www.phac-aspc.gc.ca/tbpc-latb/pubs/tbstand07-eng.php
2. The Ontario Lung Association (2009). Tuberculosis Information for Health Care Workers. https://lung.healthdiary.ca/Guest/Product.aspx?IDS=yaQAZ%2f8w5Dph%2fsSJ8eILtw%3d%3d

Management of Tuberculosis Infection and Disease

This section has been updated to reflect current recommendations from the:
Ontario Ministry of Health and Long-Term Care: Tuberculosis Protocol, September 2006 (Version 1.0)

Surveillance

Employees and Volunteers

In Long-term care institutions (homes for the aged, nursing homes, chronic care facilities, retirement homes or any other collective living centre), employees and volunteers are recommended to have a two-step tuberculin skin test (TST) within 14 days of hire unless they have a documented history of a positive TST or it is medically contraindicated. Where there is a documented history of, or current positive TST, further medical assessment including a current chest radiograph should be completed to rule out tuberculosis disease.(i) In addition, these employees and volunteers need to be educated about elective prophylactic treatment and instructed to promptly report any symptoms suggestive of tuberculosis to the IPCP and their physician.(27, 28)
The Canadian Tuberculosis Standards state that annual screening is not recommended unless the annual skin test conversion rate is greater than 0.5% within the facility.(i) Retest only individuals who were initially skin test negative and have been subsequently exposed to an infectious case of tuberculosis as part of contact investigation.(i)

Frequency of Ongoing HCW Surveillance for TB[30]

Activity Risk	**Health Care Facility Risk**	
	Medium	**Low**
High[1]	annual	annual
Intermediate[2]	annual	post-exposure[4]
Low[3]	post-exposure	post-exposure[4]

Hospital with > 200 beds
< 6 TB patients admitted annually = low risk
≥ 6 TB patents admitted annually = medium risk

Hospital with < 200 beds
< 3 TB patients admitted annually = low risk
≥3 TB patients admitted annually = medium risk

Other facilities, such as long term care
< 3 TB patients admitted annually = low risk
≥ 3 TB patients admitted annually = medium risk

NOTES:
1 High-risk activity include activities of personnel who are involved with cough-inducing procedures, autopsy, morbid anatomy and pathology examinations, bronchoscopy and designated mycobacterium laboratory procedures.
2 Intermediate-risk activities include activities of personnel who have regular direct patient contact and work on units with patients with active TB (all personnel, including housekeepers, clerks and maintenance staff).
3 Low-risk activities include activities of personnel who have minimal patient contact (e.g., working in medical records, administration) or regular patient contact but rarely with patients with TB (e.g., obstetrics, gynaecology, neonatal intensive care unit).

* CTS pg. 339 states annual skin testing is recommended for HCW involved in moderate-risk activities in medium-risk hospitals and for workers involved in high-risk activities in all hospitals.

Residents

Residents should have a two-step TST either before or within 14 days of admission to the facility unless the resident is known to be TST positive or a TST is medically contraindicated. TST for those residents with negative readings need only be repeated when an exposure to a diagnosed case of active tuberculosis occurs. Regardless of TST status, investigation of residents who develop symptoms suggestive of tuberculosis should occur.[27]

Management of Tuberculosis Infection

Treatment for latent tuberculosis infection (LTBI) is undertaken to prevent active disease in infected persons thereby preventing transmission to others. Treatment is completed under the guidance of a physician and is

optional depending on the individual's risk factors and potential benefits from treatment. No isolation requirements are needed when the individual has LTBI.[30, 31]

Management of Tuberculosis Disease

Active disease should be considered in symptomatic individuals from the following high risk groups:

- Close contacts of individuals with known or suspected active TB
- Foreign-born individuals from endemic areas who have arrived in Canada within the past two years
- Persons who are homeless or under housed
- Persons with HIV infection and AIDS
- Persons with high risk medical conditions such as transplantation (related to immunosuppression therapy, silicosis, chronic renal failure, diabetes, carcinoma of the head and neck
- Aboriginal communities with high rates of LTBi or TB disease
- Persons at risk due to occupational exposure (e.g. hospital and shelter staff/volunteers)
- Substance abusers
- Cigarette smokers (1ppd)
- Staff and residents of long-term care institutions (e.g. nursing homes and correctional facilities)
- Individuals with a history of past TB disease
- Elderly people who lived through an era when TB was common or who have come from an endemic country.[30, 31]

Prevention and Control Measures

- Notify the Infection Prevention Control Professional of suspected and confirmed cases of tuberculosis **immediately.**
- **Tuberculosis is a reportable disease and must be reported to HNHU by the next working day. Under the Health Protection and Promotion Act of Ontario, physicians and other health care professionals, including laboratory technicians and infection control practitioners, must report cases or active tuberculosis disease and latent tuberculosis infection to the local Medical Officer of Health in the jurisdiction in which they practice.**[27, 30, 31]

Accommodation

If the facility does not have the ability to isolate the resident suspected of active tuberculosis under airborne precautions, provision should be made for rapid transfer of the resident to another health care setting that can provide this.[30]

Where transfer is delayed or not possible, place the resident in a single room with the door and window closed. Limit the number of people entering the room and ensure proper airborne precautions are instituted. Ensure a sign is posted on the resident's door and that N95 respirators/surgical masks are available at the entry.[30]

Precautions

All HCWs should wear an approved fit-tested respirator (N95 mask without valves) when caring for the resident. The resident suspected of tuberculosis should be instructed to cover mouth and nose with tissues when coughing or sneezing and wear surgical masks whenever around other people. [30]

Environmental Cleaning

No additional precautions are needed.

Visitors

All non-essential visits should be postponed until the resident is deemed non-infectious. Visitors that decide to visit must be educated to ensure proper airborne precautions are followed during the visit. Visits by children should be prohibited because they are highly susceptible to infection with *M. tuberculosis*.[27]

Resident Transfer

Both transportation services and the receiving facility must be notified that the resident is on airborne precautions prior to the transport. Suspected residents should be provided with surgical masks. Elective procedures should be postponed until the resident is deemed non-infectious.[30]

Only discontinue precautions after consultation with Public Health, IPC Team and treating physician.

Contact Follow up

Where it has been confirmed that there has been resident/staff exposure to an individual with active tuberculosis, contacts must be identified and screened. When identifying contacts, all transmission risk factors must be considered. Consultation with treating physician and HNHU tuberculosis staff is recommended.
Screening is initiated as soon as a contact is identified. Where the initial results are negative, final TST is done 8 weeks after the last exposure date. Previous TST negative persons should have a TST immediately and a repeat test 8 weeks after contact. Previous TST positive persons should be followed clinically and advised about symptoms by the IPCP under the direction of a physician. This will usually include a chest x-ray.

Note: There is no indication for two-step TST in the setting of a contact investigation. TST conversion can occur as early as 2 weeks after the exposure and it will be impossible to differentiate true conversion and booster reaction in the setting of a contact investigation. Any change in TST will be considered a true conversion.[28] Individuals who are found to have converted should be evaluated for active disease. Once active disease has been excluded, treatment for LTBI (LTBI chemoprophylaxis) is recommended for recent converters.[27]

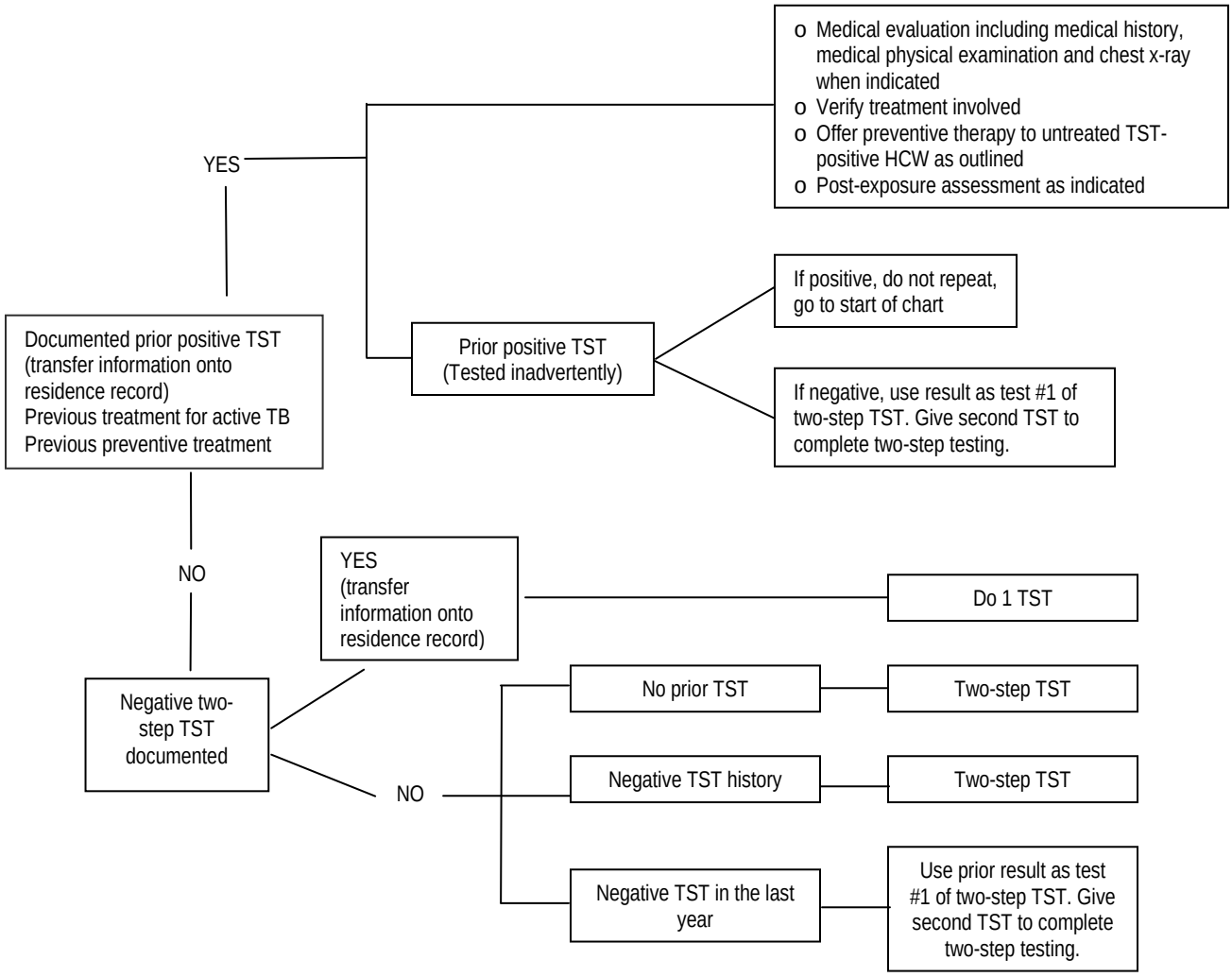
For conversion after contact with a case of drug resistant *M. tuberculosis*, consultation with a respirologist or infectious diseases physician experienced in TB management should be sought.

All contacts and converters (individual with a positive should be reported to HNHU. **Under the Ontario Health Protection and Promotion Act, physicians, hospital administrators, superintendents of institutions, school principals, laboratory operators, and practitioners, including chiropractors, dental surgeons, nurses, pharmacists, optometrists and drugless practitioners, must report cases or active tuberculosis disease and latent tuberculosis infection to the local Medical Officer of Health in the jurisdiction in which they practice.** [27, 30, 31]

Insert Facility Logo Here

Tuberculosis Chart I

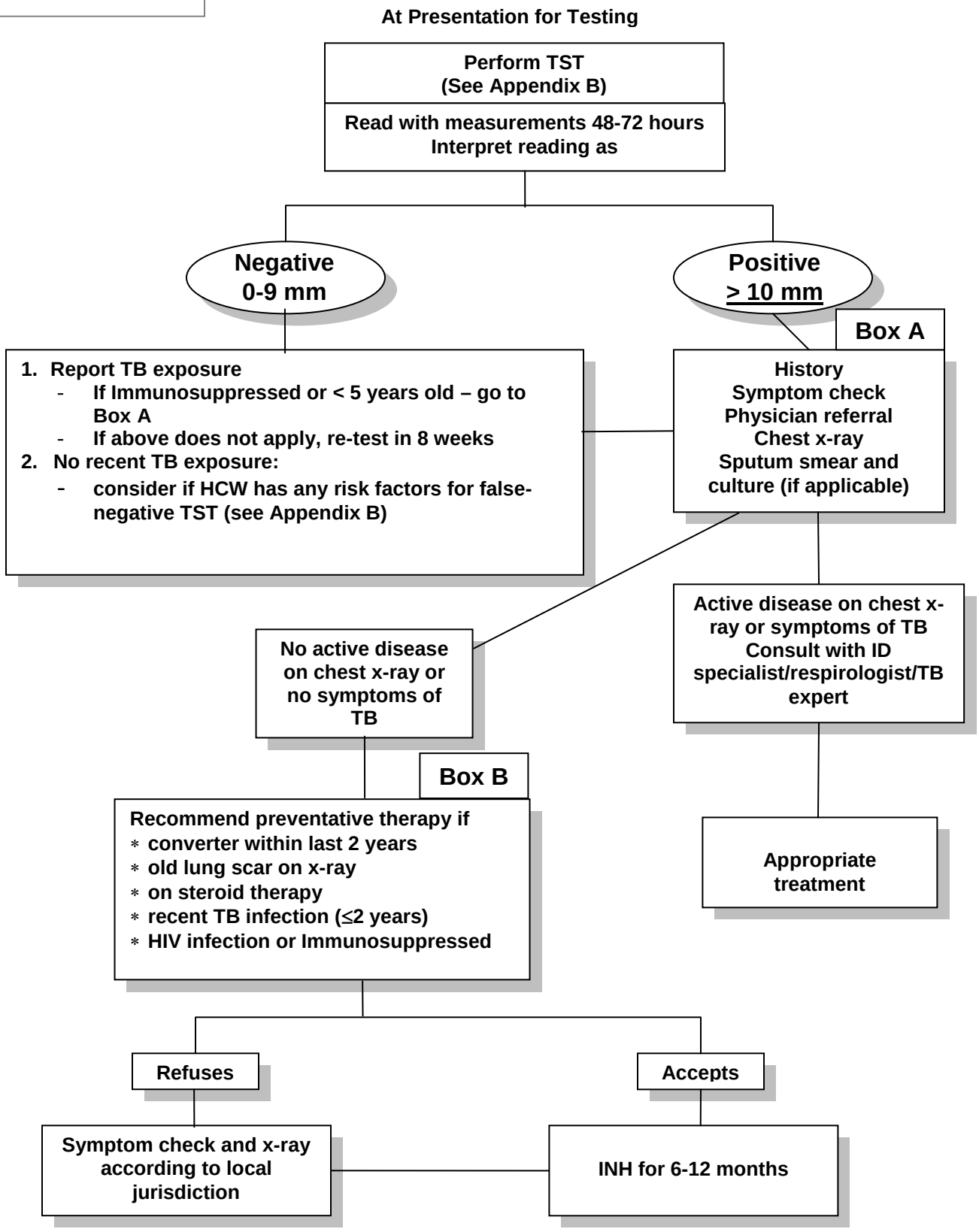
Pre-Placement and Initial Screening Test Flow Chart



Reference: (29) Public Health Agency of Canada (1996). Guidelines for Preventing the Transmission of Tuberculosis in Canadian Health Care Facilities and Other Institutional Settings.

Insert Facility Logo Here

Tuberculosis Figure II - Initial and Ongoing Mantoux Screening



Public Health Agency of Canada (1996). Guidelines for Preventing the Transmission of Tuberculosis in Canadian Health Care Facilities and Other Institutional settings. http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/96vol22/22s1/index.html#contents
Public Agency of Canada (2007). Canadian Tuberculosis Standards (6th Edition), pg. 425, 132. http://www.phac-aspc.gc.ca/tbpc-latb/pubs/tbstand07-eng.php

How to do a Mantoux Skin Test

Preparing for a Skin Test

Prepare for TB skin testing by gathering a 25 or 26 mm needle, a 1.0 mL syringe, alcohol, PPD 5TU solution and ball point pen. Epinephrine Hydrochloride Solution (1:1000) and other appropriate agents should be available for immediate use in case an anaphylactic or acute reaction occurs.
The label on the vial should indicate the expiration date. If it has been open more than 30 days or the expiration date has passed, the vial should be properly discarded and a new vial used. When you open a new vial, write the date and your initials on the label to indicate when the vial was opened and by whom.

To ensure potency and accuracy of tubersol solution:

- Do not freeze – store in refrigerator between 2 and 8 degrees centigrade.
- Store and transport in the dark and avoid exposure to light.
- Do not use if open more than 30 days.

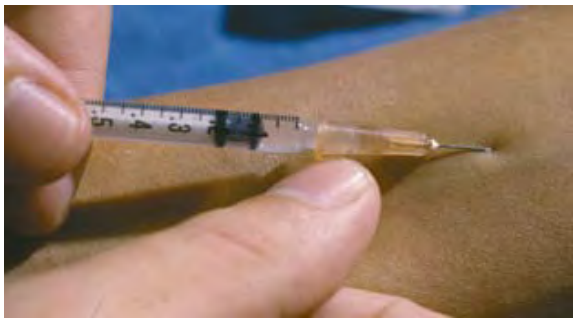
---

1. Patient Education

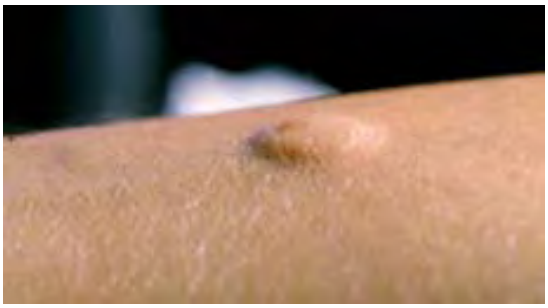
- Discuss why the skin test is given, what is involved in the procedure, and when the individual should return for the test to be read (result provided).
- If the individual cannot return within the 48-72 hour time period, do not administer the test. Instead, schedule another time that allows the individual to come for both the test and the return appointment.

2. Approach the skin at a 5 to15 degree angle

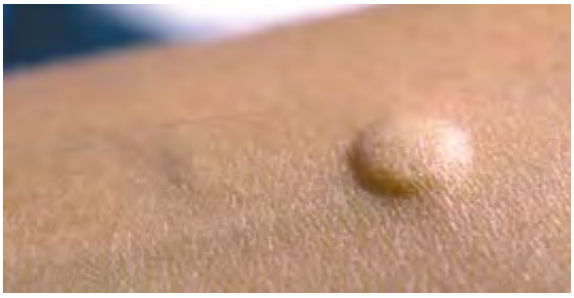
Cleanse the skin in the area to be tested with alcohol and allow to air dry. Prepare the syringe with 0.1 mL of PPD 5TU solution and clear the syringe of any air. With the bevel up, approach the skin at a 5–15^{o} angle. The intradermal injection should be placed on the palm-side up surface of the forearm, about 5-10 cm below the elbow, slowly and without aspirating.



The wheal (front view)
A wheal, which is elevated about 1 mm above the surrounding skin, is formed with an orange-peel like surface.

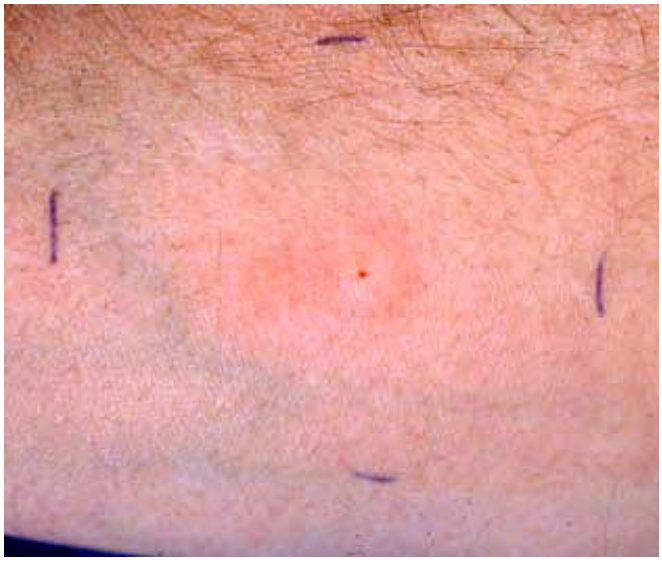


The wheal (side view)
The wheal – approximately 6-10 mm in diameter – will usually disappear within 10-15 minutes.



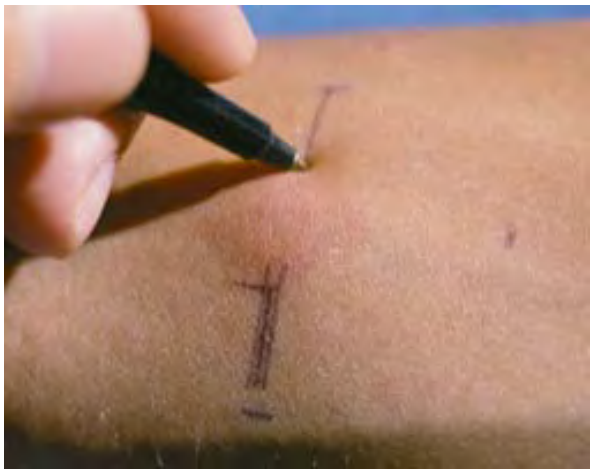
3. Mark the site

Using a pen, mark the test site so that in 48-72 hours the site can be readily located for reading.



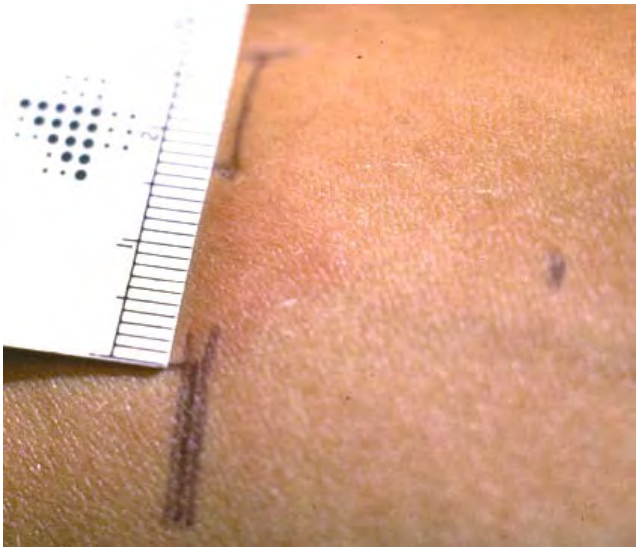
4. Reading the TB test

The test must be read within 48-72 hours of administration. Using a ballpoint pen, start from the periphery of the test site and move toward the centre at a 45 degree angle. The pen will usually stop at the edge of the reaction site, making measurement easier. Remember, induration is measured, not the redness.



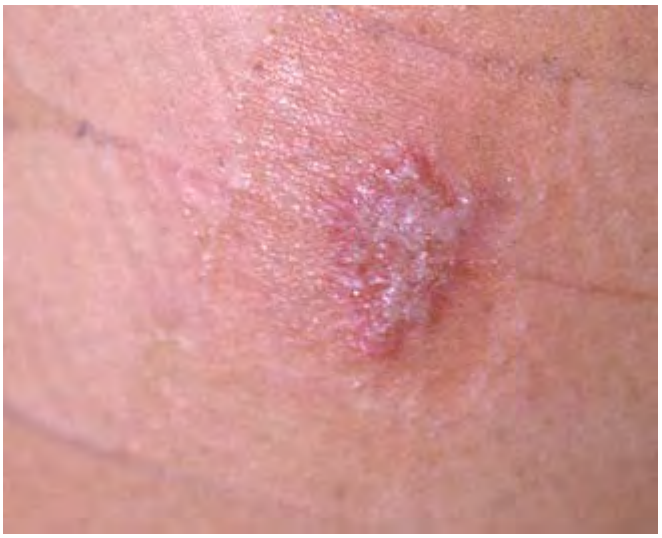
5. Taking the measurement

Measure the induration in millimetres, using the transverse diameter to the long axis of the forearm. Record measurement in the individual's chart or record sheet.



6. Necrotic pustular reaction

A necrotic pustular reaction resulted when the area tested was covered (note the marks left from the bandage) because of itching. As a result, the reaction was exacerbated.



Notes:

- Follow appropriate hand washing and hand hygiene before and after the procedure.
- To prevent needlestick injuries, do not recap the used needle and dispose in puncture resistant container.
- If the intradermal implant does not produce a wheal or if a lot of liquid runs out, repeat the test on the opposite arm and make note of the second implant. Site should be at least 10 cm from the previous injection.
- It is normal for a drop of blood to appear at the injection site, even when the needle is inserted properly. Should this happen, lightly blot the blood away with a gauze pad or cotton ball. Do not cover with an adhesive bandage as this will interfere with the test.
- Remember to instruct the individual to avoid scratching the site, keep the site clean and dry, and avoid putting creams, lotions, or adhesive bandages on it. Mild itching, swelling or irritation may occur as normal reactions and usually resolve within a week.[33]

Contraindications for Mantoux Skin Test

The following persons should not undergo tuberculin testing
:

- Individuals with severe blistering tuberculin reactions in the past.
- Individuals with documented active tuberculosis or a clear history of treatment for TB infection or disease in the past.
- Individuals with extensive burns or eczema.
- Individuals with major viral infections or live-virus vaccinations in the past month, for example, vaccination against mumps or measles. Individuals with a common cold may be tuberculin tested.

There is no contraindication for individuals, who are pregnant, have had BCG vaccination in the past or they give an undocumented history of a positive tuberculin skin test.[27, 30, 31, 32, 33]

As identified in a letter dated May 19, 2005: Sanofi Pasteur Limited, in consultation with Health Canada and the Public Health Agency of Canada, draws your attention to the potential for serious allergic reactions with the use of TUBERSOL™.

- Acute allergic reactions including anaphylaxis, angioedema, urticaria and/or dyspnea have been very rarely reported following intradermal skin testing with TUBERSOL™.
- These reactions may occur in persons without a prior history of a tuberculin skin test.
- Epinephrine Hydrochloride Solution (1:1000) and other appropriate agents should routinely be available for immediate use in case an anaphylactic or other acute hypersensitivity reaction occurs.
- Health care providers should be familiar with the current recommendations of the National Advisory Committee on Immunization for monitoring the patient for immediate reactions for a period of at least 15 minutes after inoculation and for the initial management of anaphylaxis in non-hospital settings.[45]

Any occurrences of serious allergic reactions or other serious and/or unexpected adverse events in patients receiving TUBERSOL™ should be reported to Aventis Pasteur Limited or Health Canada at:

Global Pharmacovigilance Department
Sanofi Pasteur Limited
1755 Steeles Avenue West
Toronto, ON M2R 3T4
Tel: 1-888-621-1146
Fax: 416-667-2435

Canadian Adverse Drug Reaction Monitoring Program
Marketed Health Products Directorate
HEALTH CANADA
Address Locator: 0701C
Ottawa, ON K1A 0K9
Tel: 866-234-2345

How to Interpret a Mantoux Skin Test

Sensitivity to tuberculin may be the result of a previous infection with mycobacteria. This infection, likely due to *Mycobacterium tuberculosis*, may have occurred years ago or may be of recent origin.

- Test should be read 48 to 72 hours after administration of the Tuberculin.
- Induration **not** redness should be measured. Some individuals will have allergic reactions that result in localized redness or rash without induration. This is not an indication of tuberculosis infection. If there is any blistering, this should be noted on the individual's chart/record sheet.
- The transverse diameter (to the long axis of the forearm) should be measured and recorded in **millimetres**. Recordings of "negative", "doubtful", or "positive" are **not** recommended.

Interpretation of tuberculin test

Tuberculin reaction size, mm induration	**Setting in which reaction considered significant**
0-4	HIV infection with immune suppression AND expected risk of tuberculosis infection is high (e.g., patient is an immigrant from a country where TB is endemic, is a close contact, or has an abnormal x-ray).
5-9	HIV infection Contact of active contagious case Abnormal chest x-ray with fibronodular disease Children suspected of having tuberculosis disease Other immune suppression: TNF-alpha inhibitors, chemotherapy
≥10	All others

Since tuberculin reactivity does not indicate the presence of active tuberculosis disease, individuals showing a tuberculin reaction should be referred to a physician for further diagnostic procedures. (27, 30, 31, 32, 33)

Appendix B: Tuberculin Skin Testing

The Canadian Tuberculosis Standards (43) and the article by the Canadian Thoracic Society (9) provide further information concerning tuberculin skin testing.

The TST should be performed by injecting 5 tuberculin units (TU) of purified protein derivative (PPD) intradermally in the anterior aspect of the forearm (Mantoux test). Only 5 TU PPD should be used since there are no standardized interpretations of other doses of PPD. In Canada, the multi-puncture tuberculin tests are no longer considered to be appropriate screening tests.

In order to minimize inter-observer variation, the technique of injecting PPD and interpreting reactions must be standardized. Health care facilities may choose to train a cadre of professionals to read TSTs so that the test result may be read in the immediate work environment of the HCW.

TST tests must be read 48 to 72 hours after the TST is applied and, as stated above, must be read by trained staff members. The designation of a "significant" reaction is based on the size of induration present (measurement, in millimeters, of the induration present at right angles to the long axis of the forearm) and the person's medical history. No single cut-off size can be established. Organizations, such as the American Thoracic Society and the Canadian Thoracic Society, have published schemes to interpret TST results. These schemes are slightly different. This document uses the interpretations recommended by the Canadian Thoracic Society (2).

A converter is defined as someone who has a positive TST within 2 years of having a documented negative TST.

Administration of a TST

- Follow universal precautions.
- Seat your client comfortably, resting his/her exposed arm on a firm, well lighted surface.
- Clean the injection site with an alcohol pad and allow it to dry completely.
- Use a single-dose, disposable tuberculin syringe and a 1 ¤2-inch, 26 or 27 gauge needle with a short bevel.
- Use PPD tuberculin as the injectable because it provides a testing material of standardized strength. Confirm the dosage required to administer 5 TU of PPD tuberculin (usually 0.1 mL).
- Draw up a little more than 0.1 mL of PPD solution in the TB syringe. Hold the syringe upright and tap it lightly to remove air, then expel one drop. Check that a full 0.1 mL remains in the syringe.
- Avoid areas on the skin that are red or swollen. Avoid visible veins.
- The usual injection site is on the anterior surface of the forearm, about four inches below the elbow. Avoid placing a TST on an area of skin that has anything which would interfere with reading the TST.
- Stretch the skin taut with your non-dominant hand. While holding the syringe parallel to (almost resting on) the surface, insert the needle, bevel up, so that the tip of the needle is visible just below the surface of the skin.
- As you slowly inject the contents of the syringe, you will feel a slight resistance. A firm, white wheal about 6-10 mm in diameter should appear at the injection site immediately.
- If the injectable (PPD) leaks out onto the skin and no wheal appears, it means you did not place the needle deeply enough. If the wheal is shallow and diffuse, you have given the injection too deeply. In either case, administer a second injection at least two inches from the first site and circle the second injection site.
- You may see a drop of blood when you withdraw the needle. This is normal. Offer the participant a 2x2 gauze to remove the blood. Advise the participant not to press the gauze over the injection site but to just dab gently to remove the blood. This will avoid squeezing out the tuberculin thereby disrupting the test.
- Do not recap needle. Place the syringe in a puncture-resistant container.

Instructions to Patient

- Do not rub or scratch the site of the TST test.
- Keep area clean.
- No restrictions with respect to diet, type of activities.
- Return in 48 to 72 hours for reading.

Reading a TST

- The TST is read 48 to 72 hours after being applied. However, if a person presents more than 72 hours after the TST was applied and the test result is greater than 10 mm, this test should be considered positive. If a person presents after 72 hours and the result is less than 10 mm, the test is invalid and must be repeated.
- The TST must be read by a trained physician or nurse.
- The reading should be made in good light, with the person's forearm slightly flexed at the elbow.
- The presence or absence of induration should be documented. Erythema or redness is not measured. The development of erythema does not indicate infection.
- Induration is determined by inspecting the arm from a side view against the light as well as by direct light and by palpating the arm with a gentle stroke of the finger.
- If induration is present, the diameter is measured across the width of the forearm, (e.g., measure the width at right angles to the long axis of the forearm). Sometimes the precise edge of induration is difficult to palpate. Use a pen to help mark the beginning and end points of induration. Use a flexible ruler to measure the size of induration between the pen points.
- Record the size of induration in millimetres. If the measurement falls between demarcations on the ruler, record the smaller of the two numbers. If the participant has no induration, record the result as 0 mm.

Interpreting a TST (Canadian Tuberculosis Standards (43))

After recording the size of the TST, it is necessary to interpret if the test is positive or negative to ensure that the appropriate follow-up actions are taken.

- A tuberculin reaction of 0 to 4 mm is classified as negative. Be aware of conditions that cause a false-negative TST (see below).
- A tuberculin reaction of 5 to 9 mm or more is classified as positive when any of the following risk factors are present:
    a. The individual was a recent close contact of an individual with infectious TB.
    b. The individual has a chest x-ray with apical fibrotic lesions suggestive of old healed TB.
    c. The individual is known or suspected of having HIV infection or is immunosuppressed because of other conditions.

If none of the risk factors listed above is present, a tuberculin reaction of 5 to 9 mm is classified as negative.

- A tuberculin reaction of 10 mm or more is classified as positive for all individuals (i.e., the test result for a participant who has a history of a BCG will be interpreted as positive when a reaction of 10 mm or greater is present).

False Negatives

A person with a negative TST may be infected with *M. tuberculosis* but, because of a number of factors, the immune system cannot respond to the TST. This person has a false-negative TST. This reinforces the need for obtaining an adequate medical history prior to testing. If individuals have a temporary condition likely to yield a false-negative test at the time of screening, their TST should be postponed. Reasons for a false-negative test include giving the TST:

- Within 1 month of administering a live virus vaccine (polio, measles, rubella, mumps or yellow fever); if the live vaccine has already been given, ideally **WAIT** 30 days before administering the TST;

N.B. A TST may be given **PRIOR** to administration of a live virus vaccine or at the same time as the live vaccine.

- Within 1 month of the following illnesses: measles, mumps, chicken pox, infectious mononucleosis; typhoid, brucellosis, influenza or whooping cough (pertussis);
- During a severe or febrile illness [A small percentage (5% to 10%) of people with active TB will not have a positive TST];
- To an individual who has Hodgkin's disease, sarcoidosis or who is infected with HIV;
- To an individual who is taking corticosteroids or immunosuppressive drugs;
- To an individual with severe metabolic disturbances, such as chronic renal failure, severe protein deficiency or burns; and
- To individuals at the extremes of age:
    - newborns < 6 weeks of age cannot respond to a TST
    - children aged 6 weeks to 6 months and the elderly may not respond to a TST

Individuals with the above conditions are not necessarily precluded from having a TST performed. If a positive response occurs, it must be read and interpreted as such. Medical personnel must be alert to the possibility of a **false-negative** response if the conditions listed above are present and ensure that a thorough evaluation of the risk of the individual being infected with *M. tuberculosis* is performed.

False-negative results also occur when:

- Incorrect injection technique is used;
- The TST is read by an inexperienced person; and
- Improper storage, exposure to light or heat of the tuberculin has occurred.

A significant TST reaction almost always represents previous *M. tuberculosis* infection. Other causes of reactivity include cross-reactivity to non-tuberculous mycobacterial infections or reception of BCG vaccine (live attenuated mycobacterial strain derived from *M. bovis*). The prevalence of atypic mycobacterial infection varies geographically and thus varies in its importance.

Vials of PPD should be stored at 2° C to 8° C under conditions of minimal air contact. A small decrease in PPD potency has occurred within 24 hours of contact with air, thus open vials should be used within 1 month.

Reference:
Public Health Agency of Canada (1996). Guidelines for Preventing the Transmission of Tuberculosis in Canadian Health Care Facilities and Other Institutional Settings. http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/96vol22/22s1/index.html#contents

Section VI - Non-reportable Disease Guidelines

Purpose

The purpose of this chapter is to provide information and resources that will assist in the prevention and management of outbreaks associated with non-reportable diseases within your facility.

Disease Guidelines in this section are driven by Best Practices and are able to steer health care facility protocols.

The Ministry of Health and Long-Term Care's Provincial Infectious Diseases Advisory Committee (PIDAC) is tasked with providing a single standing source of expert advice on infectious diseases for Ontario. It is a multidisciplinary scientific advisory body who provide evidence-based advice regarding multiple aspects of infectious disease identification, prevention, and control. PIDAC's work is guided by the best available evidence and updated as required.

PIDAC has produced the following resources:

Best Practice Manuals:

i. Cleaning, Disinfection and Sterilization
ii. Environmental Cleaning for Prevention and Control of Infections
iii. Infection Prevention and Control Programs in Ontario
iv. Hand Hygiene
v. Routine Practices and Additional Precautions in all Health Care Settings (updated July 2011)
    a. (Annex A) Screening, Testing and Surveillance for Antibiotic-Resistant Organisms in all Health Care Settings (updated July 2011)
    b. (Annex B) Prevention of Transmission of Acute Respiratory Infection
    c. (Annex C) Testing, Surveillance and Management of Clostridium difficile
vi. Surveillance of Health Care-Associated Infections

http://www.oahpp.ca/resources/pidac-knowledge/index.html

Non-reportable diseases have a fact sheet followed by a summary of recommendations which provide information geared towards Long-Term Care staff.

HNHU is available for consultation with facilities on diseases not included in this section to date.

Included in the Non-reportable Disease Section:

Non-reportable Disease	Date developed
Clostridium Difficile (*C. difficile*, CDAD)	
Extended Spectrum Beta-Lactamase (ESBL)	
Methicillin Resistant *Staphylococcus aureus* (MRSA)	
Vancomycin resistant enterococci (VRE)	
Scabies	
Norwalk-like Illness	
Respiratory Syncytial Virus (RSV)	

Insert Facility Logo Here

Clostridium difficile - Facts

What is *Clostridium difficile*?
C. difficile is a spore forming bacteria that is found in the environment and can be acquired in both hospital and community settings. *C. difficile* can cause asymptomatic infections (colonization) or may result in severe, life threatening disease. *C. difficile* doesn't invade the intestines, but produces toxins that damage the mucosal lining, leading to colon inflammation, diarrhea and other symptoms. When this occurs it is called *Clostridium difficile*-associated diarrhea (CDI).

How is it spread?
C. difficile spores are found in stool. Transmission most likely occurs by direct transfer from the hands of health care workers, or surfaces contaminated with the spores, such as telephones, bed rails or commodes.

People with the following conditions are more likely to acquire CDI: increased age, serious underlying illness or debilitation, a history of antibiotic usage, bowel surgery, chemotherapy and prolonged hospitalization.

What are the symptoms?
CDI symptoms can include: watery diarrhea, lower abdominal pain, cramps and tenderness, fever, loss of appetite, nausea and general weakness.

How soon do symptoms of CDI appear?
It varies. Not everyone carrying *C. difficile* in the body will get sick because of it.

How is it diagnosed?
A stool specimen for laboratory testing can confirm if you are infected with *C. difficile*.

What is the treatment for CDI?
For people with mild symptoms, no treatment is required. The symptoms usually clear up once the patient stops using antibiotics. For severe cases, antibiotics or surgical intervention may be required.

How do I protect myself and others?
Since antibiotic use is a high risk factor, use antibiotics wisely. Good hand washing and environmental cleaning practices are imperative in controlling the spread of *C. difficile* spores. It is important to follow your facility's infection control protocol. It will tell you how to use gloves, gowns, face and eye protection to ensure safe practices.

Are there any special concerns about CDI?
If you are colonized you can transmit it to others. However, only people that are hospitalized, or on antibiotics are likely to become sick. For safety precautions, and to reduce the risk of transmission to others, practice good hand hygiene after using the washroom and before eating/preparing food; clean surfaces in the bathrooms, kitchen and other areas on a regular basis with household detergent or disinfectants.

If you become sick, you need to see your health care provider.

Is follow-up necessary?
If you are colonized with *C. difficile,* and are not sick, you do not need to take any antibiotics. As a health care worker you will be expected to continue practicing proper hand hygiene.

If you become sick, you need to see your health care provider and report your symptoms to Infection Control. By reporting your symptoms, you are helping with *C. difficile* surveillance in your facility.

References:
1. Provincial Infectious Diseases Advisory Committee. Best practices document for the management of *Clostridium difficile* in all health care settings. Toronto: Queen's Printer for Ontario; 2006.
2. Simor AE, Bradley SF, Strausbaugh LJ, Crossley K, Nicolle LE, SHEA Long-Term Care Committee. Clostridium difficile in long-term care facilities for the elderly. Infect Control Hosp Epidemiol 2002;23:296-703.

Management of Clostridium difficile (C.Difficile) and Clostridium Difficile Infection (CDI)

Clostridium difficile is a Gram positive, spore-forming, anaerobic bacillus. It is widely distributed in the environment and colonizes up to 3-5% of adults without causing symptoms. Certain strains produce toxins which are responsible for diarrhea. The information contained within this section has been excerpted from the Provincial Infectious Diseases Advisory Committee (PIDAC) Annex C: Testing, Surveillance and Management of Clostridium difficile, May 2010. The full document can be accessed at: http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_cdiff.pdf

Risk Factors for CDI

Factors associated with CDI include:

- a history of antibiotic usage, particularly fluoroquinolones
- immunosuppressive therapy post-transplant
- proton pump inhibitors
- bowel disease and bowel surgery
- chemotherapy and
- prolonged hospitalization

Additional risk factors that predispose some people to develop more severe disease include

- history of CDI
- increased age
- immunosuppressive therapy
- recent surgery and
- CDI with the NAP1 strain of *C. difficile*

Surveillance

Each facility should establish a mechanism for counting and keeping track and maintaining a summary record of the number of confirmed cases of *C. difficile* acquired within the facility. A baseline rate for C.*difficile* should be established for your facility. The baseline rate is the rate of residents with C.*difficile* in your facility at any given time on a month to month basis. Infection Prevention and Control should review current rates on an ongoing basis against your baseline rate to identify any clusters. This summary record should be submitted as a report to the Infection Prevention and Control Committee or designate committee and facility administration on a regular basis. Clusters of cases in one unit or area should be investigated.

Outbreaks

Cases of CDI occurring at a rate exceeding the normally expected baseline rate for the facility (unit, floor, home area) during a specified period of time should be considered as an outbreak. The definition of an outbreak of CDI will depend on the baseline rate for the Long Term Care home. Outbreaks of C. *difficile* are reportable to the health unit. Your Haldimand Norfolk Health Unit liaison is knowledgeable about C. *difficile* surveillance and can help you interpret and investigate clusters or provide recommendations for outbreak management based on best practice guidelines.

The case definition of Clostridium *difficile* infection (CDI) is:

a) Laboratory confirmation of a positive toxin assay for *C. difficile* together with diarrhea*

OR

b) Visualization of pseudomembranes on sigmoidoscopy or colonoscopy,

OR

c) Histological/pathological diagnosis of pseudomembranous colitis.

OR

d) Diagnosis of toxic megacolon

Diarrhea Definition

*Diarrhea is defined as:

- Loose/watery bowel movements (i.e. if the stool were to be poured into a container, it would conform to the shape of the container);

  AND

- The bowel movements are unusual or different for the resident;

  AND

- There is no other recognized etiology for the diarrhea (i.e. laxative use).

It is important that stool sample collection occur as soon as possible after the onset of symptoms.

The following definitions should be used to determine whether a health care-acquired case of CDI is attributable to your facility (i.e. nosocomial):

CDI Attributable to Your Facility:

The symptoms of CDI were not present on admission (i.e., onset of symptoms > 72 hours after admission) or the infection is present at the time of admission but is related to a previous admission to your facility within the last four weeks.

CDI Not Attributable to Your Facility:

The symptoms of CDI were present on admission or < 72 hours after admission and there was no admission to your facility within the last four weeks.

Accommodation

Initiation of Contact Precautions: At onset of diarrhea and prior to CDI testing. All residents with suspected of having, or confirmed with CDI should remain in their room or bed space while symptomatic with CDI. All visitors who provide care for a resident, or who have significant contact with the resident's immediate environment, should follow the same precautions as health care providers. Visitors must not use the resident's bathroom or go into other resident rooms or bed spaces. Visitors should be discouraged from eating or drinking in the room or bed space.

i) A single room with dedicated toileting facilities (i.e., private bathroom or individual commode chair) is preferred; this may require limiting a shared bathroom to one resident;

ii) In a multi-bed room:

- Display visible signage indicating the precautions to be used.
- Maintain physical separation and draw privacy curtain between residents to promote separation of items.
- Provide an easily accessible barrier supply cart.
- Place a laundry hamper as close to the resident's bed space as possible.
- Dedicate a commode chair and other personal care items for the resident's use.
- Bedpans must be handled carefully to reduce spread.
- Eliminate shared equipment including rectal thermometers.

Hand Hygiene

Effective hand hygiene is essential to limit the spread of *C. difficile*

- Observe meticulous hand hygiene with either alcohol-based hand rub (ABHR) or soap and water.
- Soap and water is theoretically more effective in removing spores than ABHR.
- When a dedicated hand washing sink is immediately available, hands should be washed with soap and water after glove removal.
- When a dedicated hand washing sink is not immediately available, hands should be cleaned using an ABHR, after glove removal.
- Hand hygiene should not be carried out at a resident sink as this will re-contaminate the health care worker's hands.
- Education should be provided to the resident on the need and procedure to be used for hand hygiene; residents who are unable to perform hand hygiene independently should be assisted by the health care provider.
- Education should be provided to all visitors.

Environmental Cleaning

Effective cleaning of the environment around residents who have CDI is essential in limiting the acquisition and spread of *C. difficile*.

- Refer to Section III.2.1.C in the Ministry of Health and Long-Term Care's '*Best Practices for Environmental Cleaning for Prevention and Control of Infections in All Health Care Settings*' for information and checklists on environmental cleaning for *C. difficile*, available at: http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_cds_2.pdf

Discontinuation of Precautions

Precautions for CDI should only be discontinued under the direction of Infection Prevention and Control. The following criteria are used when discontinuing precautions for CDI:

Resident with suspected CDI:

- Residents on Contact Precautions for suspected CDI may, after consultation with Infection Prevention and Control, have the precautions discontinued when two negative EIA tests or one negative PCR test has been reported;
- If CDI is still suspected, the clinician should evaluate the resident and consider other diagnostic modalities. Contact Precautions should be maintained until such evaluation has taken place or until CDI is otherwise ruled out.

Resident with confirmed CDI:

- Contact Precautions may be discontinued when the resident has had at least 48 hours without diarrhea (i.e., formed or normal stool for the individual);
- Contact Precautions should be discontinued only under the direction of Infection Prevention and Control;
- Re-testing for C.*difficile* cytotoxin is not necessary to determine when precautions may be discontinued.

Recurrence of Symptoms

Relapse refers to the return of the symptoms of CDI after a symptom-free period. With CDI, cases should be counted as a relapse if symptoms recur within 2 months of the last infection. Recurrence of CDI is common and occurs in about 30% of cases. If diarrhea recurs, the resident should be immediately placed on Contact Precautions and re-tested for C. difficile cytotoxin.

If a resident has recurrent CDI, consideration may be given to leaving the resident in single room accommodation even after resolution of symptoms.

Testing for C. difficile Cytotoxin

- Stool sample collection should occur as soon as possible after the onset of diarrhea.
- Rapid turnaround time for *C. difficile* cytotoxin testing and reporting is essential and should be pre-arranged with the microbiology laboratory serving the health care setting.
- All positive *C. difficile* cytotoxin tests should be reported as soon as possible to Infection Prevention and Control at the facility where the test originated.
- Re-testing as a test of cure is not indicated; toxin may persist in stool for weeks and therefore is not helpful in determining duration of treatment or the discontinuation of Additional Precautions.
- Testing for *C. difficile* cytotoxin may be repeated if symptoms do not resolve despite treatment or to diagnose a relapse of CDI following a period of absence of symptoms.
- Testing for *C. difficile* cytotoxin should not be carried out on formed stools.

Reference:

Ontario. Ministry of Health and Long-Term Care. Provincial Infectious Diseases Advisory Committee. Best Practices for The Management of Clostridium difficile in All Health Care Settings; 2010.Pages 4-11. Available from:

http://www.health.gov.on.ca/english/providers/program/infectious/diseases/best_prac/bp_cdiff.pdf

APPENDIX A: Resident Transportation

1. Resident transport: One-person transfer, resident in wheel chair or stretcher

- Don appropriate PPE needed for contact precautions prior to entering resident's room.
- Place clean sheet over stretcher or wheel chair as instructed.
- Assist resident to stretcher/wheel chair.
- Use low level disinfectant to wipe area on wheel chair or stretcher that will provide a clean area for your hands.
- Assist resident to wash their hands with alcohol-based hand rub.
- Remove your gown and gloves.
- **WASH YOUR HANDS.**
- Place a clean sheet over the resident.
- Place appropriate isolation sign on top of chart.
- Place chart in clear plastic bag.
- Ensure that receiving area is aware that the resident has arrived.
- If the resident also presents with a respiratory illness or (ARI) use droplet or airborne precautions as required.
- Request a procedure/surgical mask for the resident, to contain respiratory secretions.
- Residents unable to tolerate mask should be provided with tissues and paper bag to discard tissue.
- **WASH YOUR HANDS** after transport is completed.

2. Resident Transport: Multiple-person transfer, resident in bed

- Don appropriate PPE for contact precautions prior to entering resident's room.
- Use low level disinfectant to wipe area on the bed that will provide a clean area for your hands.
- Remove gown and gloves.
- **WASH YOUR HANDS.**
- Place a clean sheet over the resident.
- Place appropriate isolation sign on top of chart.
- Place chart in clear plastic bag.
- Ensure that receiving area is aware that resident has arrived.
- If resident is on droplet or airborne precautions request a procedure/surgical mask for the resident, to contain respiratory secretions.
- Residents unable to tolerate mask should be provided with tissues and a paper bag to discard tissue.
- During transport, act as the "clean" person to push the bed, push elevator buttons, etc.
- **WASH YOUR HANDS** after transport is completed.

APPENDIX B: Cleaning & Disinfection Protocol for Resident Rooms contaminated with *Clostridium difficile*

DAILY CLEANING

Use a fresh bucket, cloths and mop head.

- ☐ Floors
- ☐ Bathrooms
- ☐ Horizontal Surfaces (tables, bed rails, call bells, work surfaces, mattresses/covers, doorknobs, sinks, light fixtures, chairs)
- ☐ Nursing Station
- ☐ Walls – check for visible soiling

CLEANING AT DISCHARGE/TRANSFER

- ☐ Remove all dirty/used items from the room before cleaning the room (e.g. suction container, wheelchairs, medical supplies, disposable items). Items which can be cleaned must be cleaned before removal from the room. Medical supplies which can be reprocessed should be bagged and sent for reprocessing. Discard disposable items and items that cannot be reprocessed.

- ☐ Remove bed curtains and send for laundering.

- ☐ Work from top to bottom and from clean area (i.e. windows) to dirty area (i.e. bathroom).
  - ☐ Walls – check for visible soiling
  - ☐ Bathrooms, including commodes/high toilet seat
  - ☐ Horizontal Surfaces – bedrails and bed controls: call bell; over bed table; inside drawers; TV controls, soap dispenser, door handles, light switches, light cord, chairs, suction tube and outer container, pull cord in washroom, flow meters, stethoscope, telephone, IV poles, monitors, wheelchairs
  - ☐ Patient beds (includes mattresses/covers)
  - ☐ Floors
- ☐ Discard glove box, soap, toilet paper, toilet brush, box of tissue paper, and sharps container; replace with new items.

APPENDIX C: Sample Checklist for Discharge/Transfer Cleaning

NOTE: This checklist is used with permission of Sunnybrook Health Sciences Centre and is provided to assist health care settings to develop their own tools.

Checklist for Discharge Cleaning of All Rooms

1.	All dirty used items removed?	Yes ☐	No ☐
	Suction container, etc.	Yes ☐	No ☐
	Disposable items	Yes ☐	No ☐
2.	Are the curtains removed before starting to clean if visibly soiled?	Yes ☐	No ☐
3.	Are clean cloths, mop, (all supplies) and solution used to clean the room	Yes ☐	No ☐
4.	Do you fill one bucket of the disinfectant so it is the correct strength?	Yes ☐	No ☐
5.	Check to see if the mattress and pillows and chairs are not torn.	Yes ☐	No ☐
	If they are torn, do you have them replaced?	Yes ☐	No ☐
6.	There is no double dipping with used cloths.	Yes ☐	No ☐
7.	Do you use several cloths to clean a room?	Yes ☐	No ☐
8.	Do you always work form top to bottom?	Yes ☐	No ☐
9.	Do you clean all surfaces and allow for the appropriate contact time? (10 min.)	Yes ☐	No ☐
	Mattress	Yes ☐	No ☐
	Pillow	Yes ☐	No ☐
	Blood Pressure cuff	Yes ☐	No ☐
	Bedrails and bed controls	Yes ☐	No ☐
	Flow meters	Yes ☐	No ☐
	Suction tube and outer container	Yes ☐	No ☐
	Pull cord in washroom	Yes ☐	No ☐
	Over bed table	Yes ☐	No ☐
	Inside drawers	Yes ☐	No ☐
	TV control	Yes ☐	No ☐
	Soap dispenser	Yes ☐	No ☐
	Door handles	Yes ☐	No ☐
	Light switches	Yes ☐	No ☐
	Light cord	Yes ☐	No ☐
	Chair	Yes ☐	No ☐
10.	Do you clean your phone well?	Yes ☐	No ☐
11.	Are the following cleaned thoroughly before being used by another resident?		
	Commodes/high toilet seat	Yes ☐	No ☐
	Wheelchairs	Yes ☐	No ☐

Insert Facility Logo Here

Extended Spectrum Beta Lactamase (ESBL) - Facts

What is ESBL?

Extended spectrum beta lactamase (ESBL) microbes are specific bacteria that produce enzymes (extended spectrum beta lactamase) that can break down many common antibiotics, making the antibiotics ineffective. The types of bacteria that are most commonly associated with ESBL are *E. coli* (Not the same *E.coli* that causes "hamburger disease") and *Klebsiella*.

What are the symptoms of ESBL infections?

ESBL can cause infections in the urinary tract, wounds, blood stream and lungs (pneumonia). ESBL are not more virulent than sensitive strains. When people carry ESBL and are unharmed by it; they are referred to as "colonized".

How is ESBL spread?

Poor hand washing, especially after using the washroom, can spread the bacteria from the bowel of one carrier or infected person to the mouth of another person. The spread of ESBL *E. coli* in a facility occurs most commonly through direct contact with someone with ESBL, a contaminated environment or on the hands of health care providers. Although ESBL can persist in health care settings for years, the environment is probably not a major source. Further research is needed.

Who is likely to get ESBL infection?

ESBL producing bacteria do not usually cause illness in healthy individuals. The risk of ESBL microbes to the general public is low. It is more commonly seen in people in hospitals and long term care homes. Risk factors for infection include previous use of antibiotics, length of stay, hospitalization in intensive care units, frail health or urinary catheters.

How is ESBL infection treated?

For people who carry ESBL *E. Coli* and are not ill (carriers), no treatment is needed. Not treating carriers of ESBL *E. Coli* helps prevent further resistance and allows for treatment when needed. Most ESBL are resistant to many antibiotics, but effective antibiotics can be identified by laboratory tests. Consultation with an infectious disease specialist is recommended for those with symptoms of infection from ESBL *E. Coli.*

How is ESBL infection prevented?

There is no vaccine available against ESBL infection. Hand hygiene is important for preventing ESBL infection and colonization. Gloves should be worn while providing direct personal care to patients or residents and while cleaning the environment. It is important to remember gloves must be changed and hands washed between procedures and resident care. Masks are not required for the prevention of ESBL. Gowns are required if an environment is contaminated or if providing care may soil clothing of staff or family. Always follow the facility's infection prevention and control protocol, including use of gloves and gowns as indicated by risk assessment performed by the facility's infection control professionals.

What are the work practices to manage health care workers exposed to or infected with ESBL?

If you think you might have been exposed to ESBL in the facility, talk to your occupational health department or designate. You may request to be tested by swabbing to confirm if you have been colonized. If an outbreak of ESBL is suspected in your facility, your occupational health department may require swabbing from you. This is necessary to determine the extent and source of the outbreak and to put in appropriate control measures.
It is not known how long colonization with ESBL persists. Antibiotics to "clear" or treat carriers are not recommended. Most people carrying ESBL producing bacteria will clear them on their own over time.

Am I at risk of spreading ESBL to my family?

Healthy individuals rarely acquire ESBL.

References

3. 1. Health Protection Agency (UK) (Sept 2005). Extended-Spectrum Beta-Lactamase (ESBL) producing *E. coli* - questions and answers. Retrieved on September 5, 2006 from: http://www.hpa.org.uk/HPA/Topics/InfectiousDiseases/InfectionsAZ/1191942126385/
4. 2. Montgomery Community Health Councils (May 2005) Information Leaflet on ESBL. Retrieved on September 5, 2006 from: http://www.chc.mid-wales.net/info/esbl.html.
5. 3. Halton Region Health Department (2004). Extended Spectrum Beta Lactamase (ESBL). Retrieved on September 24, 2009 from: http://www.halton.ca/health/services/communicable_disease/ESBL.htm

Revised: 09/09/24

Insert Facility Logo Here

MRSA - Facts

What is MRSA?

MRSA stands for Methicillin-resistant *Staphylococcus aureus*. *Staphylococcus aureus* (*S. aureus*) is a germ commonly found on the skin and in the nose of people. MRSA is a variety of *S. aureus* that have become resistant to methicillin (a type of penicillin), and some drugs commonly used to treat infections. Healthy people can have MRSA for weeks or years, they can be referred to as people who are colonized or carry MRSA. Sometimes, MRSA will clear away on its own. MRSA can return especially in people who take antibiotics. People who carry MRSA but who are unharmed by it are described as being colonized.

How is it spread?

MRSA usually spreads through direct contact by touching someone who has MRSA. Less often MRSA can spread by touching surfaces like railings, faucets, handles and medical devices contaminated with body fluids containing MRSA.

What are the symptoms?

MRSA produces symptoms like other types of *S. aureus* when it has the opportunity to enter the body. The skin will appear red and inflamed around wound sites, this is called MRSA infection. Symptoms in serious cases may include fever, lethargy, and headache. MRSA can also cause urinary tract infections, pneumonia, toxic shock syndrome, and even death.

How soon do symptoms of MRSA infections appear?

The onset of symptoms varies. Not everyone who has MRSA in the body will get sick from it.

How is it diagnosed?

If you think you have been exposed to MRSA in the facility, talk to your occupational health department. You may request to be tested by swabbing to confirm if you have been colonized. On the other hand, your occupational health department may require swabbing from you when an outbreak of MRSA is suspected in the facility. This is necessary to determine the extent and source of the outbreak and to put in appropriate control measures.

What is the treatment for MRSA infection?

People who are colonized with MRSA usually do not require treatment. Mild skin infections often may not need to be treated. If necessary, the infection will be drained or antibiotics will be prescribed by the doctor.

How do I protect myself and others?

There is no vaccine available against MRSA infection. Hand hygiene is the most important prevention tool and you should follow your facility's infection prevention and control protocol. You may also be required to use gloves, gowns and/or masks as indicated by risk assessment by the facility's infection control professionals.

MRSA rarely infect healthy people. However, you should follow good hygiene practices as a general rule even though you do not pose a health risk to your family, co-workers, or to the public.

Are there any special concerns about MRSA infection?

Anyone can be colonized by MRSA. Infection rarely occurs in healthy people including children, pregnant women and babies. People at risk of MRSA infections include the elderly or very ill, those who have had frequent, long-term or intensive use of antibiotics, and those who have had intensive hospital care or surgery. Intravenous drug users, persons with long-term illnesses or whose immune system is weakened are also at higher risk.

If you are colonized or infected with MRSA your work duties might need to be modified as indicated by a risk assessment by infection control professionals and your occupational health department. It is important that you follow the facility's infection prevention and control protocol to prevent spreading the MRSA to other residents.

References:

1. British Columbia Ministry of Health. Methicillin resistant Staphylococcus aureus (MRSA) [Online]. 2005 [cited 2006 Aug 7]; Available from: URL:http://www.bchealthguide.org/healthfiles/hfile73.stm
2. Health Canada. Prevention and control of occupational infections in health care: an infection control guideline. Can Common Dis Rep 2002;28S1:108-11.
3. Provincial Infectious Disease Advisory Committee (PIDAC). (2007). "Best Practices for Infection Prevention and Control of Resistant Staphylococcus aureus and Enterococci" Ministry of Health and Long Term Care.

MRSA – Evidence-based Control Measures

This fact sheet highlights the current best practices for the infection prevention and control of MRSA in long term care homes based on the Provincial Infectious Diseases Advisory Committee (PIDAC) Best Practice Document for Infection Prevention and Control of Resistant Staphylococcus aureus and Enterococci, 2007. [48]

Individual facilities should conduct a risk assessment on affected residents and/or staff, and design their own best practice to control MRSA transmission based on their epidemiological status.

Management of MRSA Colonization and Infection

Surveillance: There is ample evidence today to show that rates of transmission of MRSA are directly related to infection prevention and control practices in health care settings. Interventions focusing on preventing cross-transmission are likely to have a greater relative impact in controlling MRSA compared with other control measures. An infection prevention and control program that emphasizes early identification of colonized residents through active surveillance cultures as well as the use of Additional Precautions for preventing transmission reduces the prevalence and incidence of both colonization and infection, improves patient outcomes, and reduces health care costs.[48]

Management of a MRSA-Colonized or Infected Resident: Decolonization refers to the use of topical agents, such as nasal antimicrobial ointment and body wash and/or oral antibiotics to remove resistant bacteria from a colonized individual. Decolonization has been used along with other measures to help control the spread of MRSA in some centres. Current evidence does not recommend widespread or prolonged MRSA decolonization therapy as this may promote anti biotic resistance; long-term efficacy is poor and systematic therapy may lead to adverse events. Decolonization therapy with topical antibiotics alone is not effective. [48] Consider decolonization in selected populations when appropriate in consultation with the facility medical advisor and the IPAC team at the facility.[40,41,43] Treatment is important for the clinically ill based on susceptibility data. Gemmell et al. provide a detailed description of treatment considerations and options evaluation for infections of skin and soft tissue, urinary tract, bone and joint, respiratory tract, eye and CNS, bacteraemia and endocarditis.

Screening: Specimens for detection of MRSA should include: a swab from the anterior nares (swab both nares with one swab); a swab from the perianal area (from the perineal or groin area); a swab from skin lesions, wounds, incisions, ulcers; and exit sites of indwelling devices if present. Use aseptic technique where indicated. For newborn infants, a swab from the umbilicus should also be obtained. [48]

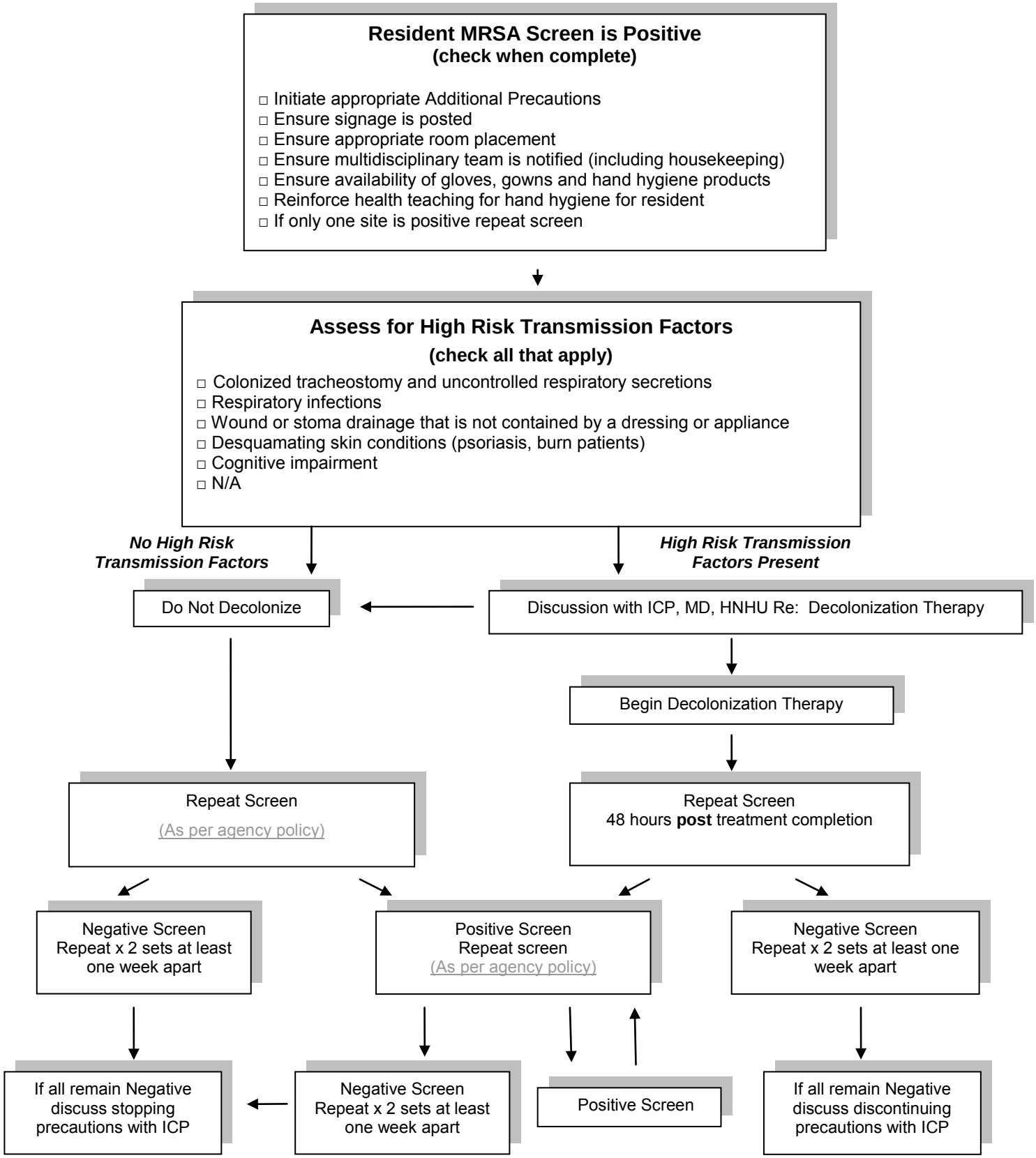
Routine Practices and Additional Precautions: see below for guidance on the following areas:

- **Environmental cleaning** – Hospital grade disinfectants are active against MRSA and general routine cleaning and disinfection methods are adequate for MRSA. [48]
- **Resident care equipment** – Equipment is a potential vector for MRSA transmission via direct contact or by contamination of HCWs' hands. Equipment dedicated to single resident use is recommended and must be thoroughly cleaned and then disinfected using a hospital grade disinfectant upon discharge of the resident. [48]
- **Gloves, gowns and masks** – Contact Precautions should be used when providing direct care to any resident who has, or is suspected of having, infection or colonization with MRSA. [48]
- **Hand washing** – Hand washing is the most important measure for controlling transmission of MRSA. Recently there has been an increase in the use of alcohol based hand rub in health care settings, it takes less time than traditional hand washing and has been shown to be as effective as washing with soap and water when hands are not visibly soiled. [48]
- **Laundry** – Routine health care cleaning practices for laundering linens are adequate for eliminating MRSA. All used linens are considered to be contaminated and should be handled appropriately. Linens must be changed upon discharge of a resident with MRSA.
- **Notification and transfer** – Advance notice should be given to healthcare providers, ambulance, receiving facilities and families on transfer/discharge.[40]

- **Resident activities** – Contact Precautions may need modifications to allow social interactions while restricting physical contact.[41]
- **Resident placement** – Single room preferred; cohorting and sharing with low risk residents is acceptable (APIC et al, p. 505-6). Isolation wards are beneficial; consider risk factors for facility and unit, isolation availability, likelihood of affected residents to be heavy shedders, resistance pattern of MRSA.[40]
- **Employee Health –** Screening of staff for MRSA should be considered when an outbreak of the same strain of MRSA continues to spread despite adherence to control measures, or when an individual is strongly epidemiologically linked to new acquisitions of MRSA. Decolonization of staff colonized with MRSA is indicated when they are epidemiologically linked to an outbreak with the same strain and adherence to Additional Precautions has failed to contain the outbreak. If staff are colonized with a strain of MRSA that is different from the outbreak strain, decolonization may be considered. [48]
- **Education-**

1. Educate residents, their families and visitors on all AROs and necessary precautions. Education residents, families and visitors on their role in controlling spread; stress hand hygiene to limit environmental contamination.[40]
2. Provide continuing education to staff on why MRSA is epidemiologically important; why prevention is critical for control; which measures have proven effective.[41] Regular feedback of surveillance data to staff has demonstrated positive effect on staff behaviour.[40]

Decision Tree for Management of Residents Colonized with MRSA



Signature: _____ Date: _____

Reference: PIDAC (2007) Best practices for infection prevention and control of resistant *staphylococcus aureus* and enterococci in all health care settings

Methicillin-resistant *Staphyloccocus aureus* (MRSA) Assessment Form

Resident Demographics

Resident Name:	DOB: yyyy / mm / dd	Gender: ☐ M ☐ F
Room #:	Floor/Unit #:	

Risk Factor Assessment (tick all that apply and specify dates of information)

☐ **Advanced age**

☐ **Previous episode of MRSA colonization/infection**

*Onset date: yyyy / mm / dd *Onset date: yyyy / mm / dd *Onset date: yyyy / mm / dd

**End date: yyyy / mm / dd **End date: yyyy / mm / dd **End date: yyyy / mm / dd

Treatment: ☐ Yes ☐ No Treatment: ☐ Yes ☐ No Treatment: ☐ Yes ☐ No

☐ **12+ hour continuous admission to hospital in last 12 months (in/out of Canada)**

Admit date: yyyy / mm / dd Admit date: yyyy / mm / dd Admit date: yyyy / mm / dd

Discharge date: yyyy / mm / dd Discharge date: yyyy / mm / dd Discharge date: yyyy / mm / dd

Location: _____ Location: _____ Location: _____

☐ **Exposure to MRSA outbreak**

Date: _____ Date: _____ Date: _____

Location: _____ Location: _____ Location: _____

☐ **Sharing a room with MRSA infected resident** Resident Identification # _____

☐ **Current antibiotic use (oral, topical)**

Medication: _____ Medication: _____ Medication: _____

Date finished: _____ Date finished: _____ Date finished: _____

Other Medications (immunosuppressive)

_____ _____ _____ _____ _____

☐ **Other underlying diseases (immunocompromised)**

_____ _____ _____ _____ _____

☐ **Home health care services in last 12 Months** _____

☐ **History of injection drug use** _____

☐ **Indwelling medical device** _____

Residence in past year. Check all that apply.

☐ long term care facility ☐ community

☐ nursing home ☐ other _____

☐ hospital

* date positive specimen collected **date resident removed from precautions

Transmission Risk Factors

☐ Colonized tracheostomy		☐ Facility MRSA outbreak	Yes No
☐ Uncontrolled respiratory secretions		☐ Contact Precautions instituted	yyyy / mm / dd
☐ Respiratory infections		☐ Infection Control notified	yyyy / mm / dd
☐ Wound or stoma drainage that is not contained by a dressing or appliance		☐ Physician Assessment	yyyy / mm / dd
☐ Desquamating skin conditions (psoriasis, burn patients)		☐ Housekeeping/dietary activation notified	yyyy / mm / dd
☐ Cognitive impairment		☐ Staff education done	yyyy / mm / dd
Decolonization: ☐ Yes ☐ No	**Date:** yyyy / mm / dd	☐ Family education done	yyyy / mm / dd
Decolonization: ☐ Yes ☐ No	**Date:** yyyy / mm / dd	☐ Specimen Sent	yyyy / mm / dd
Decolonization: ☐ Yes ☐ No	**Date:** yyyy / mm / dd	☐ Contact Precautions discontinued	yyyy / mm / dd
		☐ Terminal clean completed	yyyy / mm / dd

Lab Results

Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative
Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative
Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative
Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative
Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative
Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative	Date collected: yyyy / mm / dd specimen: result: Positive Negative
Date collected: yyyy / mm / dd specimen: result Positive Negative	Date collected: yyyy / mm / dd specimen: Date collected: Positive Negative	Date collected: yyyy / mm / dd specimen: Date collected: Positive Negative

Cleaning Checklist:

Daily Cleaning:

Use a fresh bucket, mop head and cloths. Always work from the cleanest to the dirtiest areas.

- ☐ Walls – check for visible soiling and clean if required
- ☐ Clean all horizontal surfaces and "touched" areas (tables, bed rails, call bells, work surfaces, mattresses/covers, doorknobs, sinks, light fixtures, chairs, phone, TV controls, soap dispensers)
- ☐ Clean bathroom, working from sink to toilet area
- ☐ Clean floors

Terminal Cleaning:

- ☐ Remove all used items (eg. Suction container, disposable items)
- ☐ Discard and replace the following:
  - ☐ soap ☐ toilet paper ☐ alcohol hand rinse/rub
  - ☐ glove box ☐ sharps container
- ☐ Use clean cloths, mop, supplies and solution to clean the room
- ☐ Fill one bucket with disinfectant so it is the correct strength
- ☐ Check to see if the mattress, pillows and chairs are torn
- ☐ Report damaged items to your supervisor to have them replaced/repaired.
- ☐ Use several cloths to clean a room. Do not dip cloth into disinfectant solution after use and re-use on another surface. Single cloth use only.
- ☐ Always work from top to bottom
- ☐ Clean all surfaces and allow for appropriate contact time with disinfectant:
  - ☐ mattress ☐ pillow ☐ bedrails and bed controls
  - ☐ BP cuff ☐ call bell ☐ stethoscope and column
  - ☐ flow meters ☐ phone ☐ suction tube/outer container
  - ☐ chair ☐ over bed table ☐ pull cord in the washroom
  - ☐ inside drawers ☐ TV controls ☐ light cord
  - ☐ soap dispense ☐ door handles ☐ light switches
- ☐ Clean the following (and any other resident use items) thoroughly before use by another resident:
  - ☐ wheelchairs ☐ monitors ☐ commodes/high toilet seat
  - ☐ IV poles
- ☐ Replace the sharps container when it is 2/3 full
- ☐ Clean the outer canister of the suction container and red tubing
- ☐ Remove all tape from the surfaces
- ☐ Wash the sheepskin between patients
- ☐ Wash the lift mesh or sheet between patients

For *Clostridium difficile* and VRE include:
Remove curtains before starting to clean the room.

Resident identification #: _____ Date: _____

Insert Facility Logo Here

VRE - Facts

What is VRE?

Vancomycin-resistant enterococci (VRE) are enterococci that have become resistant to vancomycin and multiple other antibiotics. Enterococci are bacteria normally present in a human's intestines, in the female genital tract and are often found in the environment. Vancomycin is an antibiotic often used to treat infections caused by enterococci.

How is it spread?

VRE is spread from one person to another through contact, usually on the hands of caregivers. VRE can be present on caregiver's hands either from touching contaminated material excreted by the infected person or from touching articles soiled by faeces. VRE can survive well on hands and can survive for weeks on inanimate objects such as toilet seats, door handles, bedrails, furniture, stethoscopes, rectal thermometers and bedpans.

What are the symptoms?

VRE sometimes cause infections in wounds, blood stream, the abdomen and pelvis. VRE may occasionally cause infections in the bile duct, heart valves or the urinary tract.

How soon do symptoms of VRE infection appear?

The onset of symptoms varies. Not everyone carrying VRE in the body will get sick from it. Healthy people can have VRE and not get sick from it, they can be referred to as people who are colonized or carry MRSA.

How is it diagnosed?

If you think you have been exposed to VRE in the facility, talk to your occupational health department. You may request to be tested by swab to confirm if you have been colonized. On the other hand, your occupational health department may require swabbing from you when an outbreak of VRE is suspected in the facility. This is necessary to determine the extent and source of the outbreak and to put in appropriate control measures.

What is the treatment for VRE infection?

VRE is not a virulent bacteria, but the range of antibiotics effective against them is limited. Most VRE infections can be treated with antibiotics. For patients/residents with urinary catheters, removal of the catheter when it is no longer needed can aid in eliminating the infection. People who are colonized (VRE are present, but have no symptoms of an infection) do not usually need treatment.

How do I protect myself and others?

There is no vaccine available against VRE infection. VRE is most commonly spread by hands, equipment, and sometimes the environment. Health care workers should follow the facility's infection prevention and control protocol with particular attention to hand hygiene. You may also be required to use gloves, gowns and/or masks as indicated by a risk assessment by the facility's infection control professionals.

VRE rarely infect healthy people, and it is not spread by casual contact such as touching or hugging, nor through the air by coughing or sneezing. You should follow good hygiene practices as a general rule even though you do not pose a health risk to your family, co-workers, or to the public.

Risk for infections caused by VRE mainly occur in hospital patients, particularly those with weakened immune systems, have had previous treatment with certain other antibiotics (particularly cephalosporins and glycopeptides), are on a prolonged hospital stay, or people in specialist units such as intensive care, cancer care, transplant wards or renal units. Patients/residents who have undergone surgical procedures, or have medical devices that stay in for some time such as urinary catheters or central intravenous catheters are also at higher risk of VRE infection. Although VRE is an important pathogen in healthcare facilities, the risk to health care workers of becoming colonized is minimal.

Are there any special concerns about VRE infection?

If you are colonized or infected with VRE, your occupational health department will refer you for treatment and follow up. Your work duties might need to be modified as indicated by risk assessment. It is important that you follow the facility's infection prevention and control protocol to prevent spreading the VRE to other residents.

References:

1. Health Canada. Prevention and control of occupational infections in health care. An infection control guideline. CCDR 2002; 28S1:108-111.
2. Glycopeptide-Resistant Enterococci (GRE) - Frequently Asked Questions http://www.hpa.org.uk/infections/topics_az/enterococci/FAQs.htm
3. Vancomycin-resistant enterococci (VRE) Frequently Asked Questions November 2005 http://www.cdc.gov/ncidod/dhqp/ar_VRE_publicFAQ.html#

VRE – Evidence-based Control Measures

This fact sheet highlights the current best practices for the infection prevention and control of VRE in long-term care homes based on the Provincial Infectious Diseases Advisory Committee (PIDAC) Best Practice Document for Infection Prevention and Control of Resistant Staphylococcus aureus and Enterococci, 2007. [48]

Individual facilities should conduct a risk assessment on affected residents and/or staff, and design their own best practice to control VRE transmission based on their epidemiological status.

Management of VRE Colonization and Infection

Surveillance: VRE infections have significantly higher morbidity and mortality compared to the non resistant strains, calling for vigorous effective control measures. The reservoir for VRE is an asymptomatic, colonized resident who is unrecognized and/or not properly isolated. Active surveillance of colonization and application of Contact Precautions has resulted in the significant reduction of VRE colonization and infection rates. Frequency of screening should be based on local prevalence of VRE and risk factors for colonization.

Screening: Specimens for detection of VRE must include stool or a swab from the rectum or anus. Stool specimens are preferred as they provide a higher yield. If a resident has a colostomy, the specimen for VRE should be taken from this site.

Routine Practices and Additional Precautions: see below for guidance on the following areas:

- **Environmental cleaning** – routine cleaning and disinfection may not be adequate to remove VRE from contaminated surfaces. Following a resident's discharge there must be a process to ensure there has been adequate cleaning and disinfection of rooms and shared non-medical equipment contaminated with VRE. This may be accomplished through the use of a task checklist to ensure that all areas and surfaces are cleaned and disinfected and that post-cleaning inspection of the room has taken place. All curtains (privacy, window, and shower) should be removed and laundered when soiled and after discharge of a resident with VRE. When cleaning a VRE contaminated room use a fresh bucket, cloths and mop head. Always work from the cleanest areas to the most contaminated areas.
- **Resident care equipment** – is a potential vector for VRE to residents either via direct contact or by contamination of health care workers' hands. Dedicate equipment to single resident use is preferred; decontaminate before use on another resident if shared.
- **Gloves and gowns** – Contact Precautions should be used when providing direct care to any resident who has, or is suspected of having, infection or colonization with VRE.
- **Hand washing** – hand washing is the most important measure for controlling transmission of VRE. Recently there has been an increase in the use of alcohol based hand rinse/rub in health care settings, it takes less time than traditional hand washing and has been shown to be as effective as washing with soap and water and when hands are not visibly soiled.
- **Resident activities** – contact precautions may need modifications to allow social interactions while restricting physical contact.
- **Resident placement** – single room is preferred; cohorting and sharing with low risk residents is acceptable.

Education:

- Continuing education should be provided to staff about why VRE is epidemiologically important; why prevention is critical for control and which measures have proven effective.

References

1. Association for Professionals in Infection Control and Epidemiology, Inc; Community and Hospital Infection Control Association–Canada; and Infection Control Nurses Association (1999). "Global consensus conference on infection control issues related to antimicrobial resistance: final recommendations" in American Journal of Infection Control, Vol. 27:503-13.
2. Muto, C.A.; Jernigan, J.A.; Ostrowsky, B.E.; Richet, H.M.; Jarvis, W.R.; Boyce, J.M. & Farr, B.M. (May 2003). "SHEA guideline for preventing nosocomial transmission of multidrug-resistant strains of *Staphylococcus aureus* and *enterococcus*" in Infection Control and Hospital Epidemiology. Vol 24: 362-386.
3. Provincial Infectious Disease Advisory Committee (PIDAC). (2007). "Best Practices for Infection Prevention and Control of Resistant Staphylococcus aureus and Enterococci" Ministry of Health and Long Term Care.

Insert Facility Logo Here

Scabies – Facts

What is Scabies?

Scabies is an extremely contagious and itchy skin condition. Itching is most intense at night. It is caused by the female mite that burrows under the top layer of your skin. The burrows look like thin, wavy, raised lines that are grayish-white in colour. Burrows or rashes can often be found on the webbing between fingers, skin folds on the wrist, elbow, or knee; genitals, breasts, abdomen or shoulder blades.

Norwegian scabies, also known as crusted scabies, is an uncommon infestation characterized by widespread crusted lesions which may or may not be itchy. It usually occurs in the elderly or immunocompromised persons. When transmitted to HCWs it manifests as *typical* scabies.[1]

The risk of acquiring scabies is much higher with *Norwegian* than typical scabies. People with *Norwegian* scabies have thousands of mites compared to those with *typical* scabies, who have about 10-15 mites per person.[2]

How is the mite spread?

Transmission usually occurs directly from person-to-person from prolonged direct contact with infested skin. Health care activities such as sponge bathing, lifting or applying body lotions have been linked to scabies transmission. Casual contact (i.e. handshake or hug) rarely leads to infestation.

Minimal contact with Norwegian scabies can result in transmission due to the large number of mites in the exfoliating skin.

Scabies can be transmitted as long as the patient remains infested and untreated, including the time before symptoms develop. First time infestation frequently takes 4-6 weeks for symptoms to develop. During this time period people with no signs of infestation may be actively and unknowingly transmitting mites.

Misdiagnosis and treatment delay have been associated with increased transmission and outbreaks.[3]

Prevention and Control Measures

Diagnosis and Surveillance

Because of the highly contagious nature of scabies, it is essential that suspect cases be examined as quickly as possible.[5] Diagnosis is commonly made by looking at the burrows or rash. A skin scraping may be taken to look for mites or eggs to confirm diagnosis. If a skin scraping returns negative, it is possible that the person may still be infested due the small number of mites present on the body; this makes it easy for an infestation to be missed.[4]

Transmission can be prevented by maintaining a high level of suspicion, early recognition and diagnosis, use of appropriate barrier precautions and adequate treatment of cases.[3]

Prophylaxis and Treatment

HCWs that have been exposed to residents with scabies within the 6 weeks prior to symptoms developing may benefit from prophylactic treatment. For *typical* scabies, an exposure should be considered when a HCW has provided hands on care or has handled infested linen without the use of gloves. Exposure to *Norwegian* scabies should be considered as minimal contact with an infested resident.[5]

Lotions are available for treatment of person infested with scabies. It is important to follow the directions provided by the physician or the directions on the package insert. A second treatment with the same lotion may be needed 7-10 days later. Pregnant or lactating women are often treated with milder scabies medications.

Everyone who requires treatment should be treated at the same time to avoid reinfestation.[6]

Resident Placement

Residents with a confirmed diagnosis of scabies should be isolated for 24 hours after starting treatment.[3]

Additional Precautions to Routine Practices

For suspected or confirmed cases of scabies, signage indicating that contact precautions are in place should be posted outside the residents' room.

Gloves should be worn when entering the room of a resident with suspected or confirmed *Norwegian* scabies and a gown worn when direct contact with the resident or environment is likely.

Gloves and gown should be worn when providing direct care to a patient with suspected or confirmed *typical* scabies.

Gloves should also be worn when handling contaminated linen (bedding, towels, clothing etc.).[3]

Environmental Control

Routine cleaning of the environment will help eliminate the mites. Environmental disinfestation is unnecessary. Thorough cleaning of upholstered furniture and vacuuming of environmental surfaces is recommended after use of a room by a resident with *Norwegian* (crusted) scabies.[2]

Linen

Mites on clothing and linens are killed by regular laundering in the hot cycle of washer and dryer. All linen used from 3 days before the beginning of treatment should be laundered. Mites rarely survive more than 3 days without skin contact. Items that cannot be washed in hot water should be stored in a bag for at least 7 days before reusing.[5]

Visitors

For suspected or confirmed cases of scabies, visitor restrictions should be implemented until residents are effectively treated. If it is believed that the restrictions may cause undue stress to the resident, visitors must be educated on the transmission and contact precautions as required.

Exclusion

HCWs with *typical* scabies should be excluded from work until they have completed one application of effective treatment and undergone post-treatment assessment.

HCWs with *Norwegian* scabies should be excluded from work until after the last application of effective treatment and subsequent post-treatment assessment.[3]

Outbreak Management

An outbreak should be considered when more than one resident and/or staff on the same unit meets the criteria for diagnosis of *typical* scabies.

Consider the likelihood of an outbreak when even only one case of *Norwegian* scabies is identified.

Facility should liaise with the Haldimand Norfolk Health Unit if an outbreak is suspected.[3]

Prophylaxis and/or treatment should be arranged when transmission of scabies has occurred or if an outbreak has been declared. Control of an outbreak can only be achieved by treatment of the entire population at risk.[5]

Reporting Requirements

Suspected or confirmed outbreaks must be reported to the Haldimand Norfolk Health Unit.

References:

1. Pickering LK, editor. Red Book: 2003 report of the committee on infectious diseases. 27th ed. Elk Grove Village, IL: American Academy of Pediatrics; 2006:711–25.
2. Bolyard EA, Tablan OC, Williams WW, Pearson ML, Shapiro CN, Deitchman SD, et al. Guideline for infection control in health care personnel. Am J Infect Control 1998;26:289-354.
3. Health Canada. Prevention and control of occupational infections in health care. An infection control guideline. Can Commun Dis Rep 2002;28S1:1-26.
4. Centers for Disease Control and Prevention. Scabies fact sheet. [Online]. 2005 Feb 10 [cited 2006 Sep 5]; Available from URL:http://www.cdc.gov/ncidod/dpd/parasites/scabies/factsht_scabies.htm
5. Ontario Hospital Association, Ontario Medical Association Joint Communicable Disease Surveillance Protocols Committee. Scabies surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2006.
6. Centers for Disease Control and Prevention. Sexually transmitted diseases treatment guidelines 2006. MMWR Morb Mortal Wkly Rep 2006;55(RR-11):79-80.

Insert Facility Logo Here

Sample form: SCABIES CASE WORKSHEET – RESIDENT

Resident name _____ Room _____

Symptoms observed: _____

Resident's attending Physician _____

Scabies diagnosed by whom? _____

Diagnosis Method: ☐ Skin Scraping ☐ Visual Exam

Diagnosis Made: ☐ Scabies ☐ Query Scabies ☐Other

Bath/shower given, if needed: Date: _____ Time: _____

Scabicide treatment applied: Date: _____ Time: _____

Gown/gloves worn during bath and Rx application? ☐ Yes ☐ No

Bed linen changed Date: _____ Time: _____

Gown/gloves worn to strip bed? ☐ Yes ☐ No

Personal clothing washed Date: _____ Time: _____

Adequate hand-washing afterward? ☐ Yes ☐ No

Signature of nurse _____

12-14 Hour Follow-up

Follow-up bath (soap) Date: _____ Time: _____

Bed Stripped Date: _____ Time: _____

Gown/gloves worn during bath? ☐ Yes ☐ No

Gown/gloves worn to strip bed? ☐ Yes ☐ No

Adequate hand-washing afterward? ☐ Yes ☐ No

Signature of nurse _____

72 Hour Follow-up

Any further symptoms observed or reported? ☐ Yes ☐ No

Signature of nurse _____

Seven Day Follow-up

Any further symptoms observed or reported? ☐ Yes ☐ No

Signature of nurse _____

BC Centers for Disease Control. Communicable disease control: scabies. [Online]. 2005; Available from: URL: http://www.bccdc.org/content.php?item=194

Insert Facility Logo Here

Sample form: SCABIES – CONTACT TRACING WORKSHEET

Resident name _____ Room _____

Resident's attending Physician _____

Scabies diagnosed by whom? _____

Diagnosis Method: ☐ Skin Scraping ☐ Visual Exam

Diagnosis Made: ☐Scabies ☐Query Scabies ☐Other

Symptoms Reported: _____

Possible Contacts (Other patients, Staff): _____

_____

_____

_____

_____

_____

Did the resident come from another facility? ☐ Yes ☐ No

If yes, where? _____

If yes, was the facility notified? ☐ Yes ☐ No

Has the resident had problems with skin lesions in the past? ☐ Yes ☐ No

If yes, Date: _____ Symptoms: _____

Treatment given: _____ Result: _____

Notification: ☐ Attending physician
☐ Infection Control Practitioner
☐ Manager
☐ Pharmacy
☐ Laundry
☐ Building Services
☐ Occupational Health Nurse

BC Centers for Disease Control. Communicable disease control: scabies. [Online]. 2005; Available from: URL: http://www.bccdc.org/content.php?item=194

Insert Facility Logo Here

Sample form: Occupational Health and Safety
Scabies Case in an Employee

Employee name: _____

Position/department: _____

Name and location of resident contact for scabies: _____

Date(s) employee had contact with resident: _____

Date resident's symptoms first noted: _____

Date resident reported to occupational nurse: _____

If employee has symptoms, describe (what, where, how long):

_____

Has employee seen their doctor? ☐ Yes ☐ No

If yes, advice given/treatment prescribed: _____

Date seen in OH&S department: _____

Treatment: _____ Date: _____

List other employee's facilities and date treated:

_____

_____

_____

_____

List all areas employee has worked during the six weeks prior to onset of symptoms:

_____

Where is employee currently working: _____

List employee's possible contacts (children, grandchildren in school, family members working in institutions or recently hospitalized):

_____

_____

_____

List any other institution/facility employee works in: _____

_____

Employee signature: _____

BC Centers for Disease Control. Communicable disease control: scabies. [Online]. 2005; Available from: URL: http://www.bccdc.org/content.php?item=194

Insert Facility Logo Here

Norwalk-like Virus Infection – Facts

What is Norwalk-like virus infection?

Norwalk virus is a common cause of viral gastroenteritis. An increase of this illness has been recognized during the winter months and has often been referred to as 'stomach flu' or 'Winter Vomiting Disease'. Norwalk virus infections have been linked to outbreaks of vomiting and/or diarrhea in institutions such as child-care centres, Long-Term Care facilities, camps and schools. Norwalk outbreaks have also been identified on cruise ships and within households.

What are the symptoms of Norwalk-like virus infection?

Most individuals with Norwalk virus will experience 1 to 3 days of nausea, vomiting, cramps and watery diarrhea. Symptoms can also include headache, fatigue, chills and muscle pain. Severe illness or hospitalization caused by Norwalk-like virus infection is uncommon. Infected individuals usually recover in 2 to 3 days without serious or long-term health effects. Seek medical advice if diarrhea is bloody and/or accompanied with a high fever, the symptoms last longer than 72 hours, or you are becoming dehydrated.

How soon do symptoms appear?

Symptoms usually appear in 1 to 2 days after exposure to the virus.

How is Norwalk-like virus infection diagnosed?

Your physician may order a stool specimen to diagnose Norwalk virus infection. Testing is usually not necessary for healthy adults if symptoms resolve in 2-3 days.

How is Norwalk-like virus transmitted?

Norwalk virus infection is spread from person-to-person. You can acquire the virus by coming into contact with an ill person's vomit or diarrhea. Common hard surfaces such as a doorknob, phone, or handrail have been implicated in the transmission of the disease because they can be easily contaminated by an ill person's unwashed hands. Direct contact with an ill person's contaminated hands and not using a proper hand washing technique or cleaning up vomit or diarrhea of an ill person can spread the infection from person to person. It can also be transmitted by ingesting food or water that is contaminated with the virus.

What is the treatment for Norwalk-like virus?

There is no specific treatment for Norwalk virus infection. You should get bed rest and drink plenty of fluids. People who become severely dehydrated should seek medical attention.

What can be done to prevent Norwalk-like virus?

- Wash your hands thoroughly for at least 10 seconds with soap and warm water after using the toilet and before preparing any food, before you eat and after touching contaminated surfaces.
- Drink only potable water (treated water) - surface waters (lakes, streams, springs etc.) cannot be considered potable unless treated.
- Do not prepare food for others if you have symptoms of a Norwalk virus infection such as vomiting and/or diarrhea. Get plenty of rest and stay home until you are no longer infectious to others, which is a minimum of 48 hours.
- Disinfect surfaces (e.g. doorknobs, railings, and toilets) frequently using household disinfectant or a solution of 1 part bleach to 10 parts water.
- Wear gloves when cleaning up vomit or diarrhea

Are there any special concerns about Norwalk-like virus infection?

The symptoms of Norwalk virus infection may be more severe for older individuals, young children and those with underlying medical conditions who may become dehydrated due to vomiting and diarrhea.

For more information please call your HNHU representative for your facility.

References:

1. Heymann DL, editor. Control of communicable diseases manual: epidemic viral gastroenteropathy. 18th ed. Washington DC: American Public Health Association; 2004. p.227-9.
2. Toronto Public Health. Norwalk fact sheet. [Online]. 2003; Available from: URL: www.toronto.ca/health/pdf/norwalk_factsheet.pdf

Norwalk-Like Virus Outbreak Management for Institutions

Norwalk-like viruses (NLVs) cause outbreaks of gastroenteritis in institutional and community settings. They have been demonstrated to account for 5-17% of diarrhea occurring in the community. The infectious dose for NLV is very low (<100 viral particles). This allows the virus to be transmitted directly from person-to-person via droplets or indirectly via environmental contamination or fomites. A fomite is an inanimate object or substance, such as clothing, furniture, or soap that is capable of transmitting infectious organisms from one individual to another.

Norwalk-like virus can also be transmitted through contaminated food or water. Prolonged viral shedding can occur among asymptomatic persons, which increases the risk of secondary cases and food-handler transmission. NLV is reported to survive relatively high levels of disinfectant and varying temperatures (freezing to 60°C).

Clinical Features

The average incubation period is 24-48 hours and illness lasts 24-60 hours. There is usually an acute onset of nausea, vomiting, abdominal cramps and diarrhea. Headache, fever, chills, malaise and myalgia are sometimes reported. Severe dehydration associated with NLVs is rare, but can be fatal (e.g., older persons with debilitating health conditions).

Viral antigen is detectable in stool for up to two weeks, but it is not known whether this represents infectious virus. There are several NLV strains with incomplete cross protection and no long-term immunity, so repeat infections can occur throughout life.

Diagnosis

NLV is usually confirmed by identification of the virus from stool samples, by direct EM testing available through the Central Public Health Laboratory once an outbreak has been declared.

Due to the delay associated with laboratory testing, and the imperfect sensitivity of the tests, clinical and epidemiologic criteria have been developed for outbreaks of acute gastroenteritis that correlate with the presence of NLVs:

1. Stool specimens that are negative for bacterial and parasitic pathogens
2. More than 50% of cases with vomiting
3. Mean or median duration of illness of 12-60 hours
4. If available, mean or median incubation period of 24-48 hours.

Prevention and Control

Although any food item can be theoretically infected with NLVs by fecal contamination, certain foods such as shellfish tend to concentrate NLVs if harvested from contaminated waters. Cooking (e.g., steaming) of shellfish might not completely inactivate NLVs. Food borne outbreaks caused by infectious food handlers has also been recognized, and is facilitated by a low infectious dose, high concentration of virus in stool, and convalescent shedding. Ready-to-eat foods that require handling but no further cooking pose greater risk than cooked foods.

Ill food handlers and health care staff should be excluded for 48 hours after the resolution of illness. Recent research has identified that *viral antigen can be detected for up to two weeks after recovery from illness*, but the epidemiologic significance is not known.

Staff may return to work 48 hours post symptoms in a NLV outbreak only with special emphasis placed on proper hand washing.

Waterborne outbreaks are less common. If drinking or recreational water is suspected as being the source, high level chlorination (10 ppm > 30 minutes) might be required for adequate disinfection.

Interruption of person-to-person transmission is challenging due to the low infectious dose, environmental contamination, and convalescent shedding.

The following measures are currently recommended:

10. Frequent hand washing with soap and water. The additional use of hand sanitizers may be appropriate during an outbreak.
11. Gloves should be worn in addition to hand washing. This will reduce the potential transfer of virus particles from clients to health care worker or from patient-to-patient via health care workers' hands. Gloves must be changed between patient/client/resident contacts and must be followed by hand washing after gloves are removed.
12. Contact precautions must be taken. Masks, fluid resistant gowns and goggles should be considered for persons who provide personal care in settings where spattering or aerosols of infectious material are present (e.g., vomiting, cleaning soiled bedpans, toilets and laundry, etc.).
13. Contact precautions must also be taken by staff that clean areas substantially contaminated by faeces or vomit.
14. Soiled linens should be handled as little as possible, and with minimum agitation. They should be laundered with detergent at the maximum cycle length and then machine dried.
15. Environmental surfaces that have been soiled should be cleaned thoroughly, and then disinfected using an appropriate germicidal product with virucidal properties (e.g., 1:10 dilution of household bleach).
16. Signage should be posted for visitors during times of high NLV incidence in the community. The signage should advise ill persons not to visit and to encourage all visitors to wash hands upon entering the building.

Specimen Collection for Institutional Outbreaks

Stool specimen collection for testing should begin on the first day of the outbreak. For maximum sensitivity, specimens should be taken within 48 hours of onset while stools are still liquid or semisolid.

A total of 3 sample vials (bacterial, parasite and viral testing) should be collected in one Enteric Outbreak Kit for each patient being tested. Six to eight Enteric Outbreak Kits should be submitted for each facility reporting an enteric outbreak. Enteric Outbreak Kit specimens should be kept refrigerated at 4°C after collection and prior to pick-up, and then transported immediately to the public health laboratory. All Enteric Outbreak Kits should be labeled completely: each separate vial and the specimen submission bag require the label to be completed. A laboratory Multiple Specimen Submission Form must accompany each shipment of enteric kits submitted to the provincial laboratory during an outbreak.

References:

1. Heymann DL, editor. Control of communicable diseases manual: epidemic viral gastroenteropathy. 18th ed. Washington, DC: American Public Health Association; 2004. p.227-9.
2. Centers for Disease Control and Prevention. Norwalk-like viruses: public health consequences and outbreak management. MMWR Mord Mortal Wkly Rep [serial online] 2001 [cited 2006]; 50(RR-9). Available from: URL: http://www.cdc.gov/mmwr/PDF/rr/rr5009.pdf

Insert Facility Logo Here

RSV – Facts

What is RSV?
Respiratory syncytial virus or (RSV) is a respiratory illness caused by a virus. Anyone can be infected but RSV most often causes serious illness in infants, young children, elderly, and those with a weakened immune system.

How is RSV spread?
Transmission usually is spread by direct or close contact with contaminated secretions, which may involve droplets or fomites. RSV can persist on environmental surfaces for many hours.

What are the symptoms of RSV infections?
RSV causes acute respiratory illness in people of all ages. Illness begins most frequently with fever, runny nose, cough, and sometimes wheezing. RSV can cause repeated infections throughout life, usually associated with moderate-to-severe cold-like symptoms; however, severe lower respiratory tract disease may occur at any age, especially among the elderly or among those with compromised cardiac, pulmonary, or immune systems.

How soon do symptoms of RSV infection appear?
2-8 days after exposure with 4-6 days being most common.

How is RSV diagnosed?
RSV can be diagnosed by having a nasopharyngeal or throat swab done. Most clinic laboratories use antigen detection assays to diagnose infection.

What is the treatment for RSV infection?
Primary treatment is supportive and should include hydration and careful clinical assessment of respiratory status. Ribavirin is an aerosolized medication that has in-vitro antiviral activity against RSV. Ribavirin aerosol treatment for RSV infection is not recommended routinely. A decision about ribavirin administration should be made on the basis of the particular clinical circumstances and experience of the physician.

How do I protect myself and others?
You can help stop the spread of RSV by washing your hands after coughing or sneezing, before preparing foods and before eating. If you do cough or sneeze, cover your nose and mouth with a tissue. At this time, there is not a vaccine for RSV. RSV medication is available to decrease risk of RSV hospitalization in high-risk children and infants.

References:
1. Centers for Disease Control and Prevention: Respiratory and Enteric Viruses Branch. (2005). *Respiratory Syncytial Virus.* Retrieved July 24, 2007 at http://www.cdc.gov/ncidod/dvrd/revb/ respiratory/rsvfeat.htm.
2. Falsey, A. R., Hennessey, P. A., Formica, M. A., Cox, C., & Walsh, E. E. (2005). Respiratory Syncytial Virus Infection in Elderly and High-Risk Adults. *The New England journal of medicine, 352*(17), 1749-1759.
3. The Committee on Infectious Diseases American Academy of Paediatrics. (2006). *Red Book: 2006 Report of the Committee on Infectious Diseases* (27th ed.). Illinois: American Academy of Paediatrics.
4. Public Health Laboratories Ministry of Health and Long Term Care. (2007). *Specimen Collection Guide*.

Insert Facility Logo Here

Rotavirus – Facts for Health Care Workers

What is rotavirus?
Rotavirus is a viral infection that causes gastroenteritis. It is more common in children, although adults can also become infected. This virus can cause outbreaks in day care centres, Long-Term Care homes, and recreational camps mainly because individuals are living or spending time together in close proximity to one another.

What are the symptoms of rotavirus?
The main symptoms are watery diarrhea; vomiting and fever which can last three to eight days. These symptoms can become severe and result in dehydration.

How soon do symptoms appear?
Symptoms begin within 24 to 72 hours after coming in contact with an infected person's feces, vomit, contaminated objects or surface they have touched.

How is rotavirus diagnosed?
Rotavirus is diagnosed by collecting a stool sample from a recently infected individual. Rotavirus is not usually detectable after the eighth day of infection. Rotavirus can be tested by direct antigen testing conducted at the Public Health Lab. Antigen testing (Quick Test) results may be available the same day and viral culture results may take several days. The sample is also sent away for Electron Microscopy. Viruses are known to be difficult to detect in stool. Even though results are negative, rotavirus could be the causative agent for the illness.

How is rotavirus transmitted?
The mode of transmissions is the fecal-oral route. Health care workers can acquire this virus through improper hand washing after coming in contact with the virus. Residents, health care equipment, resident's personal items, bedding, furniture or other commonly touched surfaces such as door knobs or hand rails can be vehicles of transmission if they are contaminated with infected feces or vomit.

Person to person spread can also occur when health care workers do not wash their hands before and after providing resident care. Although rotaviruses do not effectively multiply in the respiratory tract they may be spread in respiratory secretions (from coughing or sneezing). Transmission may also occur from drinking contaminated water.

The period of communicability is the time period that the virus can be transmitted in a persons stool. This occurs when symptoms are present an average of 3 to 6 days and up to 8 days.

What is the treatment for rotavirus?
There is no specific treatment for rotavirus. Preventing dehydration with fluid replacement is the main supportive measure. Consulting a physician or health care provider is recommended when there are signs of dehydration such as sunken eyes, dry skin, dry mouth or decreased urination.

What can be done to prevent rotavirus?
Take the following precautions to prevent the spread of rotavirus, including during outbreaks caused by rotavirus:

- Health Care workers should perform hand hygiene before and after each resident's care, as well as routinely throughout the day. Alcohol based hand rub containing 70% isopropyl or ethyl alcohol can be used when hands are not visibly soiled.
- When there is the potential for infectious body fluids such as feces or vomit to be sprayed or splashed, wear disposable gloves, eye protection and a fluid resistant gown to protect the uniform. Fluid resistant face mask can also be worn to prevent splashes or sprays of infectious material from entering the mouth. Care must be taken when removing masks as they too can be a source of infection.
- Dispose of adult incontinent pads and contents in a sanitary manner.
- Clean and disinfect surfaces that are routinely touched with a high-level disinfectant. This includes washrooms, hand rails, door knobs and other commonly touched surfaces within the facility.

- Staff members with an onset of enteric symptoms during an outbreak who are line listed should be excluded from work for 48 hours before returning to work.
- Isolate ill residents in a private room if possible or cohort residents with similar symptoms for 8 days starting from their onset of symptoms or in consultation with the health unit. Cohort staff to care for only those who have similar symptoms to reduce the chance of spreading the virus throughout the facility.
- Staff should not work in other facilities if they are working in a facility with a laboratory confirmed rotavirus. If a staff member waits one incubation period (3 days) from the last day of work at the outbreak facility/unit, after 3 days they may work at another facility.
- If a facility is experiencing a staffing shortage due to the long staff exclusion period, asymptomatic staff may be permitted to return to work sooner in consultation with the health unit. This is assessed case by case with the Medical Officer of Health.
- In the event of a rotavirus outbreak, follow the direction of the Outbreak Management Team for the affected facility or institution and contact the health unit for further guidance.

When can a facility call an outbreak over?

The facility can declare a suspect or confirmed rotavirus outbreak over after a period of 11 days from the last onset of symptoms in the last line listed case. That is 8 days for one period of communicability and 3 days for one incubation period.

Are there any special concerns about rotavirus?

Routine hand hygiene is important because a person with rotavirus can be infectious and spread the virus to others before they even know they are ill. They can also continue to be infectious after their symptoms have resolved.

For more information, call the Infectious Disease Team at 519-426-6170 or 905-318-5367

Revised 2009-08-12

Rotavirus – General Enteric Outbreak Recommendations

The information below is provided for guidance on outbreaks where rotavirus has been identified. Each outbreak is unique and the facility should consult with the health unit. The Medical Officer of Health will provide direction on a case by case basis.

Rotavirus

Incubation period: approximately 24 – 72 hours.

Period of communicability: Symptoms last on average 3 – 6 days and rotavirus is not usually detectable after the eighth day of infection.

Control measures for residents/patients

- **Duration of precautions**: Contact precautions are initiated and maintained for a period of 8 days from the **onset** of symptoms in the case. Included in the 8 days is the fact that the case must also have their symptoms resolved for 48 hours.

Due to the extended period of communicability, the duration of precautions for rotavirus is different than the recommended duration of precautions for an enteric outbreak where the causative agent is unspecified or is determined to be norovirus.

Control measures for staff

- **Staff exclusions**: Staff members with an onset of enteric illness compatible with the signs and symptoms of the outbreak and who are line listed should be excluded from work for 8 days from onset of symptoms and must have resolution of symptoms for 48 hours before returning to work.
- **Working at other facilities**: During suspect or confirmed rotavirus outbreaks staff members should not work at any other facility; however, if a staff member waits one incubation period (three days) from the last day worked at the outbreak facility/unit then they are free to work at another facility after three days.

***Asymptomatic staff may be allowed to return sooner if staffing shortages demand this. The decision to return to work prior to the recommended 8 days is in consultation with the health unit and Medical Officer of Health.**

Declaring the outbreak over

- To declare a suspect or confirmed rotavirus outbreak over, the facility/unit must wait a period of 11 days from the last onset of symptoms in the last line listed case. The 11 days is a combination of the period of communicability (maximum of 8 days) plus the incubation period (maximum of 3 days) to equal 11.

References

1. Centers for Disease Control and Prevention. 2001. Rotavirus Facts. http://www.cdc.gov/rotavirus/about_rotavirus.htm
2. Heymann, D.L. 2004. Control of Communicable Diseases Manual. 18th Edition. American Public Health Association.
3. Personal E-mail Communication with Dr. Colin Lee. May 12, 2006.
4. Public Health Agency of Canada. 2001. Rotavirus MSDS. http://www.phac-aspc.gc.ca/msds-ftss/msds86e-eng.php

Insert Facility Logo Here

Human Metapneumovirus (hMPV) – Facts

What is Human Metapneumovirus (hMPV)?

hMPV is a recently identified member of a family of viruses that also includes respiratory syncytial virus and parainfluenza virus. hMPV can cause acute upper and lower respiratory tract infections in patients of all ages but most often occur in children and infants or the elderly.

How is hMPV spread?
Spread of the virus is most likely to occur by direct or close contact with the respiratory secretions of infected persons or by contact with objects and surfaces contaminated by their secretions.

What are the symptoms of hMPV infections?
Most persons with hMPV infection have mild symptoms including cough, runny nose or nasal congestion, sore throat and fever. Infection with the hMPV can exacerbate symptoms in individuals with asthma, and may cause difficulty breathing and more severe respiratory illness in the very young, elderly or immuno-compromised individuals. The virus may also be present with no clinical manifestations.

How soon do symptoms of Human Metapneumovirus appear?
It is believed most persons who develop illness will do so three to five days after being exposed to the virus.

How is it diagnosed?
A nasopharyngeal swab is collected by a health care professional using a swab inside the back of the nose.

A blood sample for serologic testing of acute and convalescent serum levels can also be used to confirm infection.

How is hMPV infection treated?
Supportive treatment of hMPV may include medications to minimize symptoms. Fever reducers, antihistamines, and treatments to improve breathing can be particularly helpful to provide comfort until the illness resolves.

Who is likely to get hMPV infection?
Though the virus can occur at any age, the populations most at risk of severe disease and hospitalization are small children, immuno-compromised individuals and the elderly.

How can you prevent the spread?
The spread of hMPV may be prevented through proper and frequent hand-washing, covering the mouth and nose with a tissue when coughing or sneezing, or, coughing or sneezing into the upper sleeve rather than the hands, prompt disposal of used tissues and proper hand washing.

Control of nosocomial hMPV infection depends on adherence to contact precautions.

References
Retrieved from the world wide web on March 16, 2010. The American Academy of Pediatrics Red Book 2009: 463-464

http://aapredbook.aappublications.org/cgi/content/full/2009/1/3.79?cookietest=yes&maxtoshow=&hits=10&RESULTFORMAT=&fulltext=metapneumovirus&searchid=1&FIRSTINDEX=0&fdate=1/1/2009&tdate=1/31/2009&resourcetype=HWCIT

Section VII - Employee Health

Employee Health should provide a systematic, coordinated and continuous process to reduce the risks nosocomial infections in healthcare workers and to optimize use of resources through a strong preventative program.

Handling and Disposal of Needles and Sharps

All LTCHs and RHs should have a policy and procedure on the safe disposal of sharps as well as ongoing evaluation of newly engineered products that will reduce staff exposure to sharps. Parenteral or percutaneous exposure to needles or other sharp instruments contaminated with blood or body fluids can lead to serious or fatal infections such as Hepatitis B, Hepatitis C or Human Immunodeficiency Virus (HIV).

Protecting staff and others:

1. Use devices with safety features.
2. Staff must immediately discard all used needles/sharps directly into a puncture resistant container.
3. **Do not recap needles.**
4. Place entire sharp in puncture resistant container immediately after use. Do not move from room to room, leave on tray, shelf, linen, or in resident garbage.
5. Do not bend or break needles from syringes.
6. Keep disposal containers close to the source of contaminated sharps.
7. Seal, lock and replace containers when indicated by full line. **Do not overfill containers.**
8. Place locked and used containers in a designated area for proper disposal.
9. Staff must have the ability to report any needle stick injuries.
10. The employer must have a protocol in place describing the step by step process that an injured staff member must follow to ensure that proper treatment, testing, education and follow up is provided.

Preventing the Transmission of Bloodborne Pathogens in Health Care

The potential for transmission of human immunodeficiency virus (HIV), hepatitis B virus (HBV), hepatitis C virus (HCV), and other bloodborne pathogens in health care facilities is of concern to residents and health care workers.
Prevention of bloodborne pathogen transmission in health care requires a comprehensive infection prevention and control program as well as an occupational health and education program to limit exposures and reduce transmission if exposures occur.

The elements of the program include:

1. **Education of workers**
   Education programs should be based on practical situations that workers encounter in their day to day assignment of specific duties. Content should include general information about infection prevention and control (stressing the importance of hand washing); information about bloodborne pathogen transmission; assessing risk of exposure; preventing exposures; immunization (hepatitis B vaccine); specific policies and procedures for individual work areas, including protocols following an exposure; and resources for further assistance.[44]

2. **Vaccination of people at risk for hepatitis B**
   Immunization with hepatitis B vaccine is recommended for those people who are at increased risk of occupational infection, namely those exposed frequently to blood, blood products and bodily fluids that may contain the virus. This group includes all health care workers and others who will be or may be exposed to blood or are at risk of injury by instruments contaminated with blood.[45]

3. **Identification and restriction of risky practices**
   Workers and employers need to analyze the components of their job in order to determine what procedures and activities put them at greatest risk of exposure. Review of reports and workers' compensation claims may assist in this assessment. Exposures and injuries need to be broken down into levels of risk such as low, moderate and high. When risk levels have been identified, then introduction of products and implementation of policies and procedures can be prioritized. For example, an accidental needle stick injury from a hollow bore, blood-filled needle would constitute a high risk exposure as compared with an accidental stick injury from needles used on an intravenous (IV) line for an injection.

   Recommendations

   - A surveillance system should be established to identify the causes of exposure.
   - A risk reduction program should critically evaluate all procedures that may involve risk of exposures to blood or other fluids capable of causing bloodborne pathogen transmission, in order to identify ways to reduce or eliminate the risk of exposure.

4. **Design and use of safer medical devices**
   If it is impossible to eliminate the risk, engineering controls (safer medical devices) should be used to modify work practices and procedures in order to reduce the risk. Whenever possible, alternative processes should be instituted that will eliminate the risk of a significant exposure.

5. **Targeted interventions based on occupation-specific hazards.**
   Personal protective equipment must be used to reduce the risk of exposure.

6. **Comprehensive infection prevention and control and occupational health program**
   These programs include ongoing surveillance and analysis of exposures, with a focus on preventing parenteral exposures, and applying risk assessment methods to identify and modify risky procedures.[44]

The management of potential percutaneous or mucosal exposure to HBV should be based on the immunization and antibody status of the injured person and the infectious status, if known, of the source. Any effective approach to the prevention of the transmission of bloodborne pathogens is based on the assumption that all blood

and certain body fluids are potentially infectious. Precautions, applied to all residents at all times, may reduce the incidence and the quantity of blood exposure for health care workers in occupational settings.

Recommendation for HBV antibody status

- It is critical to ascertain whether the exposed individual has received a full and properly administered course of hepatitis B vaccine and to assess the post-vaccination anti-HBs antibody level. Therefore all health care workers and health care students should have their antibody status assessed and documented after immunization.[45]

Epidemiology of the Transmission of Bloodborne Pathogens

The risk of acquiring a bloodborne infection, i.e., HIV, HBV, or HCV in a health care or public service setting depends on three factors:

1. **Significant exposure to bloodborne pathogens**
   The evaluation of a significant exposure to a bloodborne pathogen requires investigation of two criteria, type of body fluid and type of exposure.

Types of body fluids capable of transmitting HIV, HBV, and HCV from an infected individual include:

- Blood, serum, plasma and all biologic fluids visibly contaminated with blood
- Laboratory specimens, samples or cultures that contain concentrated HIV, HBV, HCV
- Organ and tissue transplants
- Pleural, amniotic, pericardial, peritoneal, synovial and cerebrospinal fluids
- Uterine/vaginal secretions or semen (unlikely to be able to transmit HCV)
- Saliva (for HCV, HBV, and HIV if a bite is contaminated with blood and for HBV if a bite is not contaminated with blood)

Faeces, nasal secretions, sputa, tears, urine and vomitus are not implicated in the transmission of HIV, HBV and HCV unless visibly contaminated with blood. The risk of transmission from screened donated blood and manufactured blood products is negligible in Canada.

To be considered significant, the type of exposure is one in which one of the infected fluids listed above comes into contact with the HCWs tissues as follows:

- Tissue under the skin (e.g., percutaneous or broken skin following a bite)
- Non-intact skin (e.g., cut, chapped or abraded skin)
- Mucous membrane (e.g., eyes, nose or mouth)

In summary, if the type of body fluid and the type of exposure is indicative of a significant exposure, further investigation is warranted.

2. **Prevalence of infection in the population**
   Prevalence of infection refers to the number of infected persons in a population at a particular point in time. The prevalence of bloodborne infections varies by disease from one region of Canada to another, from rural to urban areas, and from one city to another.

3. **Risk of infection due to exposure to bloodborne pathogens**
   The risk of infection after exposure to infected blood varies by bloodborne pathogen. The risk of transmission after parenteral exposure to HIV-infected blood is about 0.3%, whereas it is estimated to be up to 100 times greater for HBV (30%) and may be between 3 and 10% for HCV.

Bloodborne Infection Prevention and Control Program

- All health care workers in LTCHs and RHs must receive infection prevention and control education regarding bloodborne pathogens and safe practice in the workplace before beginning work and on an ongoing basis thereafter (i.e. annually).
- Health care workers need to know how to apply preventive techniques in routine practice and in unusual situations. Time must be given for workers to question, absorb and apply the information. It is critical that educational programs enable workers to express and work through their concerns about caring for individuals with a bloodborne infection.
- Records of participation should be maintained as needed to satisfy legal requirements.
- Facilities should assess procedures to determine risk of exposure to blood and fluids capable of transmitting bloodborne pathogens.
- Facilities should participate in and regularly review accidental blood exposure information from their own pertinent injury reporting programs, and from others (i.e. Workers' Compensation Board).
- Comprehensive objective approaches to data collection and analysis should be used. Statistical and epidemiologic techniques that examine exposure incidences with respect to variables of time, place and person should be applied in a continuous surveillance program to contribute data that should form the basis of occupational safety programs.
- Formal mechanisms should be established to ensure that action is taken as required as a result of the analysis of injury reporting programs. Involve employees at each stage of the development of safety programs.[44]

Management of Incidents of Possible Blood and Body Fluid Exposure

The concern involved with exposure to blood or body fluids is possible exposure to Hepatitis B, Hepatitis C or HIV. The risk associated with an exposure to bloodborne diseases is determined by the nature of the exposure, the immunization status of the exposed person and the risk factors associated with the source.

The health unit serves as a source of information to members of the community related to possible exposures to bloodborne diseases through contact with the blood or body fluids of another person.

Health Unit staff will assess the circumstances of the exposure, provide recommendations for actions to the person or their health care provider, and facilitate voluntary testing of the source where appropriate.

First Aid Management

The following actions are recommended:

1. Remove the contaminated clothes as appropriate.

2. Immediately allow the wound to bleed freely.

3. Wash the wound and injured area well with soap and water. Apply an antiseptic if available; however there is no evidence that antiseptic use reduces risk of pathogen transmission. Application of caustic agents such as bleach, injection of antiseptics, or disinfectants into the wound is not recommended.

4. If the eyes, nose or mouth are involved, flush well with large amounts of water or saline (at least 1000cc's).

5. Occupational exposures should be reported to your supervisor who should immediately implement facility/agency policy.

6. Seek immediate medical assistance, preferably at a hospital emergency department.

Cleaning up Blood Spills, Vomit or Fecal Accidents

Individuals, who clean up blood, vomitus or faeces, should minimize the risk of infection to themselves and others by considering the following procedure:

Procedure for Blood Spills/Vomit/Faeces

Steps:

1. Appropriate personal protective equipment should be worn when cleaning up a spill such as disposable gloves. If the possibility of splashing exists, the worker should wear protective eyewear and a fluid resistant gown.
2. If any broken glass or sharps are involved, they should be disposed with care into a sharps container.
3. The spill area must be cleaned of obvious organic material before applying a disinfectant, as disinfectants are substantially inactivated by blood and other materials.
4. Excess blood, vomit, faeces and fluid should be absorbed and removed with disposable towels. Discard the towels in a plastic-lined waste receptacle and per facility policy.
5. After cleaning, the affected area should be disinfected with a chemical disinfectant such as sodium hypochlorite (household bleach) or 3% hydrogen peroxide. A concentration of household bleach at 5000 ppm (1:10 dilution) is effective. For carpet or upholstered surfaces, 3% peroxide may be used.
6. Leave the disinfectant (diluted bleach or peroxide) on the surface for 10 minutes. When using bleach solutions, be sure the area is well ventilated and that it is not mixed with other cleaning compounds.
7. The treated area should then be wiped with paper towels soaked in tap water. Allow the area to dry.
8. Disposable towels, gloves and other disposable equipment should be discarded in a plastic lined waste receptacle and per facility policy. Immediately tie and place with regular waste where daily trash removal occurs. Take care not to contaminate other surfaces during this process. Change gloves if needed.
9. Care must be taken to avoid splashing or generating aerosols during the clean up.
10. Hands must be thoroughly washed for 10 seconds with soap and warm running water after gloves are removed.

Procedure for Assessing the Source for Risk of Blood or Body fluid Exposures

Exposures

It is important for anyone who has experienced an exposure to another person's blood or body fluids to be assessed by a health care provider to determine risk of infection and to get appropriate and timely treatment to prevent transmission of disease.

When a significant exposure to the blood or body fluids occurs, it is always important to consider an assessment of the source in considering degree of risk. When the source person is known, he or she may be approached to provide information about health status and /or to provide a blood sample for hepatitis B, C and HIV. Any person who is exposed to the blood or body fluid of another person and who is eligible to apply; may seek mandatory blood testing for hepatitis B, C and HIV. The Haldimand Norfolk Health Unit may assist in assessment of the source and assistance with mandatory blood testing. Public Health Nurses may be contacted during business hours at (519) 426-6170 or after hours at 1-877-298-5888.

All persons should be advised to follow medical recommendations with regard to post-exposure prophylaxis (PEP). Waiting for the diagnosis or serostatus of a potential source may take days, which will impact the efficacy of the PEP medication or vaccine. HIV anti-retrovirals for example, should be taken within 1-2 hours after exposure to ensure optimum efficacy.

What is the Mandatory Blood Testing Act?

In August of 2007, section 22.1 of the Health Protection and Promotion Act was repealed. The new Mandatory Blood Testing Act and its regulation then came into effect. The intent of this new legislation is to shorten the time needed to obtain a mandatory blood test and to broaden eligibility for applications.

The law enables police officers, firefighters, correctional services staff, paramedics, members of the College of Nurses of Ontario, members of the College of Physicians and Surgeons of Ontario, medical students engaged in training and others who in the course of their work may be exposed to the blood or body fluid of others, to apply to request information about the source person's blood with respect to hepatitis B, C and HIV.

Under this legislation, good Samaritans are also eligible to apply, when an exposure to blood or body fluids has occurred while providing emergency first aid or health care.

The legislation is implemented by the Ministry of Community Safety and Correctional Services.

Legislation Documents

1) The Mandatory Blood Testing Act – directs the process for blood testing

2) Ontario Regulation 449/07 – sets the requirements and procedures which must be followed with respect to an order for compulsory blood testing

3) Ontario Regulation 244/08 – an amendment to Regulation 449/07 which describes the inclusion of members of the College of Physicians and Surgeons and medical students in training as those eligible to apply under the Act.

Definition of the Applicant

The person wishing to apply to have another person's blood tested is called the **applicant**.

To be eligible to apply, the applicant must have come into contact with the other person's body fluids:

- While providing emergency health care
- Giving emergency first aid
- As a victim of a crime
- In the course of his or her duty when the applicant belongs to a specified class or group of people

These groups are:

- Persons who are employed in a correctional institution, place of open custody or place of secure custody
- Police officers, civilian employees of a police service, First Nations constables and auxiliary members of a police service
- Firefighters (including volunteer firefighters)
- Paramedics and emergency medical attendants and paramedic students on field placement
- Members of the College of Nurses of Ontario
- Members of the College of Physicians and Surgeons of Ontario
- Medical students engaged in training

To be eligible as a victim of a crime, a police report must have been filed and the applicant must consent to disclose this information if asked.

There are requirements that must be met in completing and submitting an application which are more fully described in the next section.

Note: Your completed application must be received by the health unit within 7 days of the exposure.

Definition of the Respondent

The **respondent** is the person who has been identified by the applicant as the person whose body substances the applicant may have come into contact with. The respondent is the person who may be ordered to submit to a blood test.

There are many requirements and legal criteria which must be met to result in an order for mandatory testing of the respondent's blood. An application does not always mean that mandatory testing will be ordered. There is also an opportunity within the process for the respondent to voluntarily provide this information.

Submitting an Application

How do I apply?
An application includes two forms:

- the Applicant Record
- the Physician Report

You can apply using the Physicians and Applicant Report/Record. Download these forms from the Ministry of Community Safety and Corrections. Do not print off copies to keep on file for future use. These forms can change at any time without notification.

Instructions are provided on the form. It is important to follow all of the steps on the form and to answer all the questions and complete all fields. If the application is not complete, it may not be accepted by the medical officer of health.

How long do I have to submit an application?
Your application, which includes both the applicant report and the physician report, must be received at the health unit within 7 days from the time you have been exposed. If the application is not received within seven days, it will not be processed.

How do I count the days to make sure I meet the deadline?
The day the exposure occurred is day zero. Begin counting at 1 on the next day and include Saturdays, Sundays and holidays. The legislation states that if the deadline, or your 7th day, falls on a Saturday, Sunday or holiday, you may extend the deadline by one day.

Where do I send the application?
An application is processed by the health unit responsible for the area where the respondent lives. For help in identifying which health unit is the correct one, you may call the Haldimand Norfolk Health Unit or The Ministry of Health's INFOline at 1-866-532-3161.

However, you may drop off or fax your application to any Ontario health unit and it will be forwarded to the correct one. To meet the deadline, please drop off or fax both completed forms to any health unit no later than 4 pm on the 7th day. The Fax number for the HNHU is 519-426-4767 or 905-765-8905.

What kind of information is asked for on the forms?
As the applicant you must:

- Provide a description of the circumstances of the occurrence and the details of the exposure and your injury
- Provide your immunization history
- Include the name and address of the person whose blood you are applying to have tested
- Agree to counseling about the exposure and treatment options
- Agree to have your blood tested for the three diseases, HIV, hepatitis B and hepatitis C
- Provide consent for the release of information about your blood test results, if asked, to the Consent and Capacity Board
- Give consent for the release of information on the police report if you were the victim of a crime

Will my personal information on the application be shared?
Your application will be read by the medical officer of health and by members of the Consent and Capacity Board if your application is forwarded for an order.

Your blood test results will be shared with the doctor who completed the physician report, your family physician if named, and with the Consent and Capacity Board members if requested.

None of your personal information will be shared with the respondent.

Processing an Application

How long does the whole process take?
The regulations to the act require specific time lines be followed. Despite the shortened time frames intended by the legislation, the process itself has many steps and time will vary depending on many factors.

What are the steps in the process?

a) Voluntary Process

- When an application is received by the correct health unit and all requirements are met, it proceeds to the voluntary stage. This means that the medical officer of health assigns a public health nurse to contact the respondent and ask that he or she voluntarily provide either a blood sample to test for the three diseases, or evidence of testing that was done within the past four weeks for hepatitis B and C, and HIV
- Two days is allowed for this stage of the process.
- If after two days the respondent cannot be reached, the application is forwarded to the Consent and Capacity Board who will hold a hearing within seven days.
- The public health nurse continues to try to reach the respondent and if successful, will notify the Consent and Capacity Board and ask to have the application withdrawn (as long as the hearing hasn't yet started).
- When the respondent is contacted, the public health nurse will explain the request and keep information about the applicant confidential.

- The nurse will help the respondent to arrange for blood testing for hepatitis B and C, and HIV. The respondent will be asked to sign a consent form giving permission for the test results to be shared with the medical officer of health, the respondent's physician and the applicant's physician.
- The respondent must show identification when he or she has the testing done. The person taking the blood is required to carefully handle the specimens, send them to the Central Public Health Lab in Toronto and ask for immediate analysis.
- When the test results are received by the medical officer of health, the results will be immediately forwarded to the applicant's physician. The applicant is notified and asked to make an appointment with his or her doctor so that testing results can be interpreted to the applicant.

b) Order Process

- When the respondent cannot be reached within two days or when the respondent refuses to voluntarily provide the information requested, the application is forwarded to the Consent and Capacity Board.
- The Consent and Capacity Board now has seven days to start and conclude a hearing and one more day to make a decision about whether to issue an order compelling the respondent to provide a sample.
- The hearing is public and any person involved with the application may be called as a witness.
- The applicant, respondent and medical officer of health will be notified of the decision made by the board.
- When a respondent is ordered to provide a blood sample he or she must do so within seven days of the order.
- If the respondent does not comply with an order made by the board, the applicant may apply to a judge of the Superior Court of Justice for an order requiring the respondent to comply with the order of the board.
- A person who does not comply with the order could be fined up to $5,000 per day.
- When an order is written and the respondent complies, the respondent is provided with a laboratory requisition and must go to a designated person to have the blood drawn. The respondent must bring identification.
- The results of the blood tests will be sent to the applicant's physician and the applicant is notified to make an appointment with his or her physician to have the results interpreted.

Where can I get more information?
Here are some resources about this new legislation that may be helpful:

Ministry of Community Safety and Correctional Services – provides additional information.

Health Unit staff are available to answer questions and provide support. Please call 519-426-6170 or 905-318-5367 and *ask for Sexual Health*

Immunization in Health Care Workers

Immunization is the most effective means of preventing hepatitis A and B; influenza; MMR; polio; pertussis; tetanus-diphtheria (Td); varicella; and other vaccine-preventable diseases. HCWs who acquire vaccine-preventable disease not only suffer morbidity and mortality as result of infection but also serve as vectors for transmitting disease to other staff and residents.[46]

Recommendations for Health Care Workers Immunization are contained in the Public Health Agency of Canada (PHAC) document:

Web link:
http://www.phac-aspc.gc.ca/im/is-cv/

National Advisory Committee on Immunization (NACI)

Canada Communicable Disease Report Volume 37 • ACS-5 September 2011

An Advisory Committee Statement (ACS)

Immunization of HCWs

NACI considers the provision of influenza vaccination for HCWs who have direct patient contact to be an essential component of the standard of care for the protection of their patients. HCWs who have direct patient contact should consider it their responsibility to provide the highest standard of care, which includes annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to patients.

In order to protect vulnerable patients during an outbreak, it is reasonable to exclude from direct patient contact HCWs with confirmed or presumed influenza and unvaccinated HCWs who are not receiving antiviral prophylaxis. Health care organizations should have policies in place to deal with this issue.

Example of LTCH policy regarding health care worker influenza immunization:

Sample Form

Employee Health
Annual Influenza Vaccine Policy

Vaccination is recognized as the single most effective way of preventing or attenuating influenza for those at high risk of serious illness or death from influenza infection and related complications. The Canadian National Advisory Committee on Immunization (NACI) states that influenza vaccine programs should aim to vaccinate at least 90% of eligible recipients.

People who are potentially capable of transmitting influenza to those at high risk should receive annual vaccination, regardless of whether the high-risk persons have been immunized. Health care and other care providers in LTCHs, through their activities, are potentially capable of transmitting influenza to those at high risk of influenza complications**.** This group also includes students, regular external care providers (i.e. physiotherapists, agency nurses) and volunteers.

Immunization of care providers decreases death, morbidity and health service use among residents, staff illness and absenteeism. Immunization of care providers and residents is associated with decreased risk of Influenza-like Illness (ILI) outbreaks.

Healthcare workers (HCWs), who have direct patient contact, are an essential component of the standard of care for the protection of their clients. HCWs who have direct patient contact should consider it their responsibility to provide the highest standard of care, which includes undergoing annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to patients.

_____will strive to achieve 100% employee compliance with the annual influenza program although it is noted that the influenza vaccine may be medically contraindicated in some staff members.

Employees will be given every reasonable opportunity to be informed of the risks, benefits, and side effects of the influenza vaccine. This includes, but is not limited to:

- An education program at the beginning of the “flu season” promoting awareness of influenza and the importance of vaccination as well as a resource list which highlights the risk and side effects,
- Posting of a notice in accessible locations of the facility (e.g. conference room, staff lounge) at least a month in advance of the vaccination clinic dates. The notice will include the clinic dates, hours and location,
- Obtaining employees’ individual written consent,
- Sending reminders to those employees who have not yet received the immunization prior to the last day of the immunization clinic

*Thank you to Leacock Care Centre (a Jarlette Home) for the adaptation of their influenza policy

Section VIII – References

1. Association for Professionals in Infection Control and Epidemiology. APIC tool kit: infection control manual for long-term care facilities. Washington, DC: Association for Professionals in Infection Control and Epidemiology; 2003.

2. Friedman, C. APIC text of infection control and epidemiology: infection control and prevention programs. 2nd ed. Washington, DC: Association for Professionals in Infection Control and Epidemiology; 2005:p.110-1.

3. McGeer A, Campbell B, Emori TG, Hierholzer WJ, Jackson MM, Nicolle LE, et al. Definitions of infection for surveillance in long-term care facilities. Am J Infect Control 1991;19(1):1-7.

4. Health Canada. Routine practices and additional precautions for preventing the transmission of infection in health care. Can Commun Dis Rep. 1999;25 Suppl 4.

5. Provincial Infectious Diseases Advisory Committee(PIDAC) Routine Practices and Additional Precautions Annex B: Routine Practices for Prevention of Transmission of Acute Respiratory Infection in all health care settings.MOHLTC. 3rd Revision, May 2010.

6. Association for Professionals in Infection Control and Epidemiology. Hand hygiene for health care workers [pamphlet]. Association for Professionals in Infection Control and Epidemiology, Inc.; 2005.

7. Centers for Disease Control and Prevention. Guideline for hand hygiene in health-care settings: recommendations of the healthcare infection control practices advisory committee and the HICPA/SHEA/APIC/IDSA hand hygiene task force. MMWR Morb Mortal Wkly Rep 2002 Oct 25;51(RR-16).

8. Association for Professionals in Infection Control and Epidemiology. Glove use for healthcare providers: hand covering and Simcoer protection [Online]. 2004 July 22 [cited 2006 Aug 28]; Available from: URL: http://www.apic.org/AM/Template.cfm?Section=Search&section=Brochures&template=/CM/ContentDisplay.cfm&ContentFileID=262

9. Health Protection Agency. Information on face masks and respirators: frequently asked questions [Online]. 2005 Jan 11 [cited 2006 Aug 22]; Available from: URL:http://www.hpa.org.uk/infections/topics_az/SARS/maskFAQs.htm

10. 3M. Respirator: N95 particulate [package insert]. London (ON): 3M Occupational Health and Environmental Safety Division: 3M Canada Company; 2004.

11. Centers for Disease Control and Prevention. Guidance for the selection and use of personal protective equipment (PPE) in healthcare settings [Online]. 2004 May 20 [cited 2006 Aug 06]; Available from: URL:http://www.cdc.gov/ncidod/dhqp/ppe.html

12. Health Canada. Hand washing, cleaning, disinfection and sterilization in health care. Can Commun Dis Rep 1998 Dec;24 Suppl 8.

13. Provincial Infectious Diseases Advisory Committee (PIDAC). Best practices for cleaning, disinfection and sterilization of medical equipment/devices: in all health care settings. Ministry of Health and Long-Term Care; Revised February 2010.

14. Health Canada. Therapeutic products programme guidelines: disinfectant drugs. Ministry of Health; 1999.

15. Association for Professionals in Infection Control and Epidemiology. Companion animals and your health [Online]. 2005 Mar 10 [cited 2006 Sep 13]; Available from: URL:

http://www.apic.org/AM/Template.cfm?Section=Search&section=Brochures&template=/CM/ContentDisplay.cfm&ContentFileID=2557

16. Centers for Disease Control and Prevention. Healthy pets healthy people [Online]. 2006 Oct 6 [cited 2006 Oct 6]; Available from: URL:http://www.cdc.gov/search.do?action=search&queryText=healthy+pets+healthy+people

17. Ministry of Natural Resources. Protecting your family and your pets against rabies [Online]. 2006 May 8 [cited 2006 Oct 7]; Available from: URL: http://publicdocs.mnr.gov.on.ca/View.asp?Document_ID=7343

18. Simcoe Muskoka District Health Unit. Bat rabies [Online]. 2006; Available from: URL: http://www.simcoemuskokahealth.org/pdfs/QA%20Batrabies_FINAL.pdf

19. Meehan K. APIC text of infection control and epidemiology: surveillance programs in health care facilities. 2nd ed. Washington, DC: The Association for Professionals in Infection Control and Epidemiology; 2005:p3.1-3.18.

20. Ontario Hospital Association, Ontario Medical Association Joint Committee on Communicable Disease Protocols. Influenza surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2005.

21. Ministry of Health and Long-Term Care/Public Health Division and Long-Term Care Homes Branch. A guide to the control of respiratory infection outbreaks in long-term care homes. Ministry of Health and Long-Term Care; 2004.

22. Public Health Ontario Public Health Laboratories. Specimen collection guide. Ministry of Health and Long-Term Care; 2011.

23. National Advisory Committee on Immunization. Statement on influenza vaccination for the 2011-21 season. Can Commun Dis Rep 2011 September 2011:37(ACS-5).

24. Ontario Public Health Standards. 2008. Institutional/facility outbreak prevention and control protocol.

25. Ontario Hospital Association, Ontario Medical Association Joint Committee on Communicable Disease Protocols. Enteric diseases surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2005.

26. Ontario Public Health Standards.: Tuberculosis Control Protocol. MOHLTC; 2008.

27. Ontario Hospital Association, Ontario Medical Association Joint Committee on Communicable Diseases Surveillance Protocols Committee. Tuberculosis surveillance protocol for Ontario hospitals. Toronto: Ontario Hospital Association; 2002.

28. Public Health Agency of Canada. Guidelines for preventing the transmission of tuberculosis in Canadian health care facilities and other institutional setting. Can Commun Dis Rep 1996;22 Suppl 1:*i-iv*, 1-50, *i-iv*, 1-55.

29. Canadian Lung Association/Canadian Thoracic Society and Tuberculosis Prevention and Control, Centre for Infectious Disease Prevention and Control, Health Canada. Canadian tuberculosis standards. 5th ed. Canadian Lung Association, Government of Canada; 2000.

30. The Lung Association. Tuberculosis: information for health care providers. 3rd ed. Ontario Lung Association; 2003.

31. Tubersol [package insert]. Toronto: Aventis Pasteur Limited; 1997.

32. Steben M, Cormier L, Wong T, Mann J, Sevigny C, Jayaraman J, editors. Terry's case: a youth at risk. [Online]. 2003 Apr 3 [cited 2006 Jun 18]; Available from: URL:http://www.phac-aspc.gc.ca/slm-maa/terry/atbtest_e.html

33. Provincial Infectious Diseases Advisory Committee.(PIDAC). Routine Practices and Additional Precautions; Annex C: Testing, Surveillance and Management of *Clostridium difficile* in all health care settings. MOHLTC. 2010

34. Suneshine RH, McDonald LC. Clostridium difficile-associated disease: new challenges from an established pathogen. Cleve Clin J Med 2006;73(2):187-197.

35. Poutanen S, Simor AE. Clostridium difficile-associated diarrhea in adults. Can Med Assoc J 2004;171(1):51-58.

36. Bouzo E, Munoz P, Alonso R. Clinical manifestations, treatment and control of infections caused by *Clostridium difficile*. Clin Microbial Infect 2005;11(4):57-64.

37. Gerding DN, Johnson S, Peterson LR, Mulligan ME, Silva J Jr. Clostridium difficile-associated diarrhea and colitis. Infect Control Hosp Epidemiol 1995;16(8):459-477.

38. Simor AE, Bradley SF, Strausbaugh LJ, Crossley K, Nicolle LE, SHEA Long-Term Care Committee. Clostridium difficile in long-term care facilities for the elderly. Infect Control Hosp Epidemiol 2002;23:296-703.

39. Coia JE, Duckworth GJ, Edwards DI, Farrington M, Fry C, Humphreys H et al. Guidelines for the control and prevention of methicillin-resistant *Staphylococcus aureus* (MRSA) in health care facilities. J Hosp Infect 2006;63S:S1-S44.

40. Muto CA, Jernigan JA, Ostrowsky BE, Richet HM, Jarvis WR, Boyce JM et al. SHEA guideline for preventing nosocomial transmission of multidrug-resistant strains of *Staphylococcus aureus* and *Enterococcus*. Infect Control Hosp Epidemiol 2003;24:362-386.

41. Global consensus conference: final recommendations. Am J Infect Control 1999;27:503-513.

42. Gemmel CG, Edwards DI, Fraise AP, Gould FK, Ridgway GL, Warren RE. Guidelines for the prophylaxis and treatment of methicillin-resistant *Staphylococcus aureus* (MRSA) infections in the UK. J Anitmicrob Chemother [serial online] 2006 Feb 28 [cited 2006 Aug 30]; 57:589-608. Available from: URL:http://jac.oxfordjournals.org/cgi/reprint/57/4/589.

43. Health Canada. Preventing the transmission of bloodborne pathogens in health care and public service settings. Can Commun Dis Rep [serial online] 1997 [cited 2006 Sep 12]; 23 Suppl 3. Available from: URL: http://www.phac-aspc.gc.ca/publicat/ccdr-rmtc/97vol23/23s3/index.html

44. National Advisory Committee on Immunization. Canadian immunization guide. 7th ed. Ottawa: Canadian Medical Association; 2006

45. Dash GP, Fauerbach L, Pfeiffer J, Soule B, Bartley J, Barnard BM, et al. APIC position paper: improving health care worker influenza immunization rates. Am J Infect Control 2004 May; 32(3):123-5.

46. Morbidity and Mortality Weekly Report, June 6, 2003/vol.52/No.RR-10. Guidelines for Environmental Infection Control in Health Care Facilities.

47. Provincial Infectious Diseases Advisory Committee (PIDAC) Routine Practices and Additonal Precautions in all health care settings: Annex A: Screening, testing and surveillance for antibiotic-resistant organisms in all health care settings. MOHLTC: 2011

48. Ministry of Health and Long-Term Care/Public Health Division. Control of Gastroenteritis Outbreaks in Long Term Care Home: A guide for long term care homes and health unit staff. MOHLTC; September 2011.

49. OHA, Enteric Disease Surveillance Protocol for Ontario Hospitals, September 2007, pg. 6.