

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 Practices for Cleaning, Disinfection and Sterilization in all health care settings](#)

[Best Practices for the Management of Clostridium difficile in all health care settings](#)

[Annex to Routine Practices and Additional Precautions, Annex A: Screening, Testing and Surveillance for Antibiotic-Resistant Organisms \(AROs\)](#)

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

SMDHU 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
<i>Clostridium Difficile</i> (<i>C. difficile</i> , CDAD)	2006/10/01
Extended Spectrum Beta-Lactamase (ESBL)	2006/10/01
Methicillin Resistant <i>Staphylococcus aureus</i> (MRSA)	2006/10/01
Vancomycin resistant enterococci (VRE)	2006/10/01
Scabies	2006/10/01
Norwalk-like Illness	2006/10/01
Respiratory Syncytial Virus (RSV)	2007/09/12

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

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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

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/>
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>.
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

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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 \(MRSA\)](http://www.bchealthguide.org/healthfiles/hfile73.stm) [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.

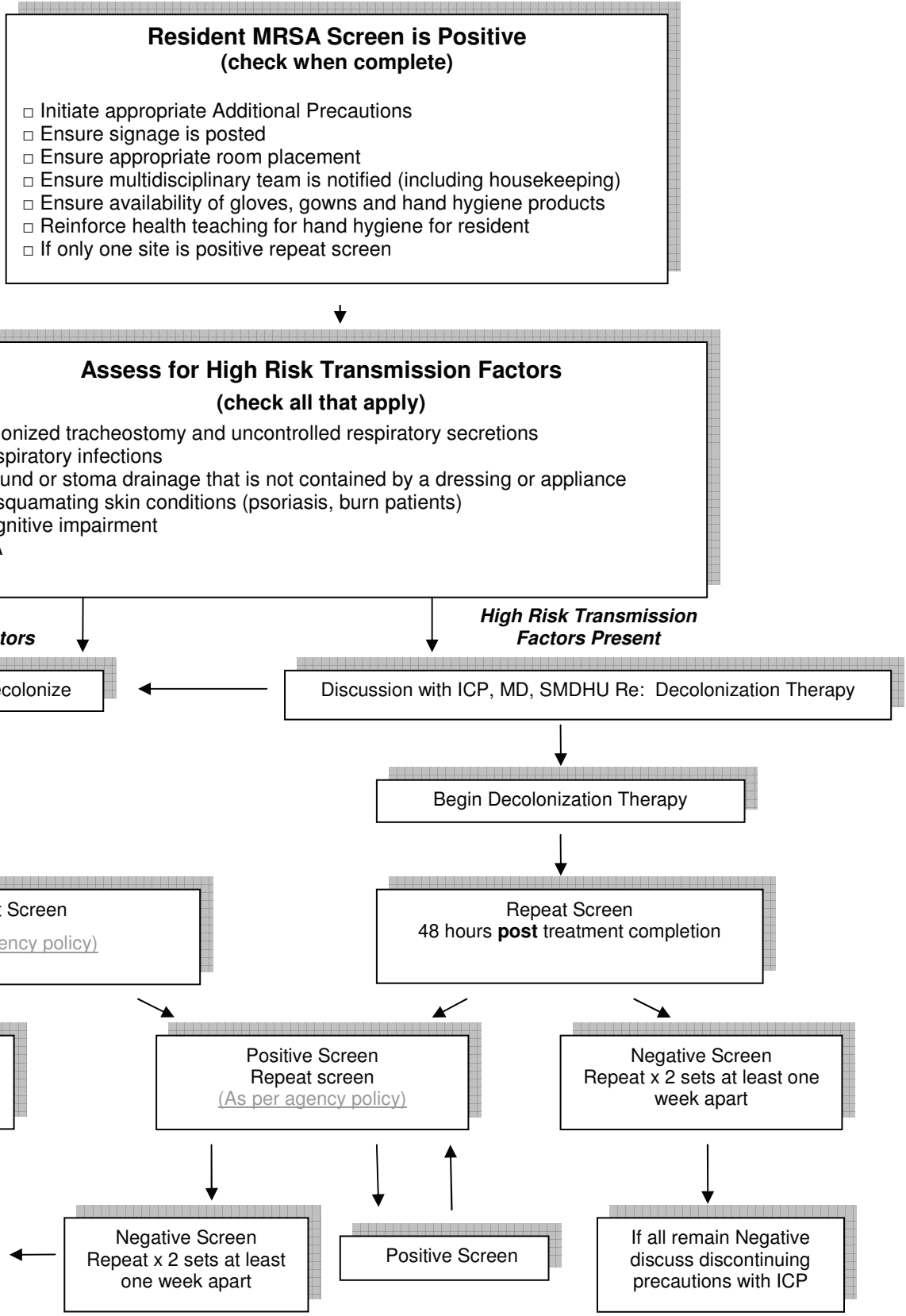
Screening: Specimens for detection of MRSA should include: a swab from the anterior nares (swab both nares with one swab); a swab from the perianal area (from the perineal or groin area); a swab from skin lesions, wounds, incisions, ulcers; and exit sites of indwelling devices if present. Use aseptic 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

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- ❖ **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: _____

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

Resident Demographics		
Resident Name:	DOB: <u> yyyy / mm / dd </u>	Gender: <input type="checkbox"/> M <input type="checkbox"/> F
Room #:	Floor/Unit #:	
Risk Factor Assessment (tick all that apply and specify dates of information)		
<input type="checkbox"/> Advanced age		
<input type="checkbox"/> Previous episode of MRSA colonization/infection		
*Onset date: <u> yyyy / mm / dd </u>	*Onset date: <u> yyyy / mm / dd </u>	*Onset date: <u> yyyy / mm / dd </u>
**End date: <u> yyyy / mm / dd </u>	**End date: <u> yyyy / mm / dd </u>	**End date: <u> yyyy / mm / dd </u>
Treatment: <input type="checkbox"/> Yes <input type="checkbox"/> No	Treatment: <input type="checkbox"/> Yes <input type="checkbox"/> No	Treatment: <input type="checkbox"/> Yes <input type="checkbox"/> No
<input type="checkbox"/> 12+ hour continuous admission to hospital in last 12 months (in/out of Canada)		
Admit date: <u> yyyy / mm / dd </u>	Admit date: <u> yyyy / mm / dd </u>	Admit date: <u> yyyy / mm / dd </u>
Discharge date: <u> yyyy / mm / dd </u>	Discharge date: <u> yyyy / mm / dd </u>	Discharge date: <u> yyyy / mm / dd </u>
Location: _____	Location: _____	Location: _____
<input type="checkbox"/> Exposure to MRSA outbreak		
Date: _____	Date: _____	Date: _____
Location: _____	Location: _____	Location: _____
<input type="checkbox"/> Sharing a room with MRSA infected resident Resident Identification # _____		
<input type="checkbox"/> Current antibiotic use (oral, topical)		
Medication: _____	Medication: _____	Medication: _____
Date finished: _____	Date finished: _____	Date finished: _____
Other Medications (immunosuppressive) _____		
<input type="checkbox"/> Other underlying diseases (immunocompromised) _____		
<input type="checkbox"/> Home health care services in last 12 Months _____		
<input type="checkbox"/> History of injection drug use _____		
<input type="checkbox"/> Indwelling medical device _____		
Residence in past year. Check all that apply.		
<input type="checkbox"/> long term care facility <input type="checkbox"/> community		
<input type="checkbox"/> nursing home <input type="checkbox"/> other _____		
<input type="checkbox"/> hospital		

* date positive specimen collected **date resident removed from precautions

Transmission Risk Factors

<input type="checkbox"/> Colonized tracheostomy <input type="checkbox"/> Uncontrolled respiratory secretions <input type="checkbox"/> Respiratory infections <input type="checkbox"/> Wound or stoma drainage that is not contained by a dressing or appliance <input type="checkbox"/> Desquamating skin conditions (psoriasis, burn patients) <input type="checkbox"/> Cognitive impairment Decolonization: <input type="checkbox"/> Yes <input type="checkbox"/> No Date: <u> yyyy / mm / dd </u> Decolonization: <input type="checkbox"/> Yes <input type="checkbox"/> No Date: <u> yyyy / mm / dd </u> Decolonization: <input type="checkbox"/> Yes <input type="checkbox"/> No Date: <u> yyyy / mm / dd </u>	<input type="checkbox"/> Facility MRSA outbreak <input type="checkbox"/> Contact Precautions instituted <input type="checkbox"/> Infection Control notified <input type="checkbox"/> Physician Assessment <input type="checkbox"/> Housekeeping/dietary activation notified <input type="checkbox"/> Staff education done <input type="checkbox"/> Family education done <input type="checkbox"/> Specimen Sent <input type="checkbox"/> Contact Precautions discontinued <input type="checkbox"/> Terminal clean completed	<table border="0"> <tr> <td></td> <td style="text-align: center;">Yes</td> <td style="text-align: center;">No</td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> <tr> <td></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> <td style="text-align: center;"><u> yyyy / mm / dd </u></td> </tr> </table>		Yes	No		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>		<u> yyyy / mm / dd </u>	<u> yyyy / mm / dd </u>
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Lab Results

Date collected: <u> yyyy / mm / dd </u> specimen: _____ result: Positive Negative	Date collected: <u> yyyy / mm / dd </u> specimen: _____ result: Positive Negative	Date collected: <u> yyyy / mm / dd </u> specimen: _____ result: Positive Negative
Date collected: <u> yyyy / mm / dd </u> specimen: _____ result: Positive Negative	Date collected: <u> yyyy / mm / dd </u> specimen: _____ result: Positive Negative	Date collected: <u> yyyy / mm / dd </u> specimen: _____ result: Positive Negative
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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: _____

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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.

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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 Simcoe Muskoka District 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 Simcoe Muskoka District 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.

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 _____

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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](http://www.bccdc.org/content.php?item=194). [Online]. 2005; Available from: URL: <http://www.bccdc.org/content.php?item=194>

**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: _____

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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 the Health Connection Line or the CD Team (705) 721-7520.

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1. Heymann DL, editor. [Control of communicable diseases manual: epidemic viral gastroenteropathy](#). 18th ed. Washington DC: American Public Health Association; 2004. p.227-9.
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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.

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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.

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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*.

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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 person's 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 8 days from the onset of symptoms and must be resolved of symptoms 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 Communicable Disease Team at (705) 721-7520 Ext. 8809.

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

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3. Personal E-mail Communication with Dr. Colin Lee. May 12, 2006.
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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.

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