

Infection Control Connection

Spring 2006



An information newsletter for Infection Control Professionals

Collated & Distributed by: INFECTIOUS DISEASES TEAM

Director: Jim Paton

Program Manager: Susan Shular

Public Health Inspectors: Susan Anderson
Bev Middleton
Christina Milani
James Reason

Public Health Nurses: Carrie Haines
Jane Dobisz
Debby Minielly

Social Marketer: Elly Van Grootel

Program Assistants: Karen Gventer
Mary Halliday

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Immunization Rates for Hospital and Long Term Care Health Care Workers 2005-06 Influenza season

Hospitals

Hanover Hospital	85%
South Bruce Grey Health Services	
Kincardine Site	70%
Walkerton Site	59%
Durham	70%
Chesley	<u>63%</u>
(65%- average up from 60% in 2004-05)	

Grey Bruce Health Services

Lion's Head Site	44%
Southampton Site	72%
Owen Sound Site	50%
Meaford	54%
Warton	55%
Markdale	<u>30%</u>

(52%- average down from 55.5% in 2004-05)

Low LTFC Staff Immunization Rates

Rockwood Terrace	70%
Malcolm Place	57%
New Horizons	67%
The Village Seniors	66%
Brucelea Haven	44%
Trillium Court Lodge	46%

Nursing homes/Homes for Aged
average rate: 87%

Retirement homes
average rate: 83%

Common Infections in LTC

According to data from the Centers for Disease Control and Prevention, the most common infections among LTC residents are urinary tract infections, lower respiratory tract infections, soft tissue infections, and gastroenteritis. Diarrhea secondary *Clostridium difficile* toxin is also a concern, as is tuberculosis. In addition, frequent transfers of residents between hospitals and LTC facilities have led to an increase in antibiotic-resistant microorganism infections in LTC facilities.

Infection Recognition

Since older adults do not present with the same signs and symptoms as younger adults, this may create a challenge for some caregivers. For example, clinically infected LTC patients and residents often present with a change in mental status, decline in physical function, or other nonspecific symptoms, such as increasing confusion, a new episode of incontinence, falling, or a decline in mobility.

Fever is also a sign of possible infection. Although fever in a younger adult is defined as more than 100°F orally, this may not be true for an older adult; therefore, it is often useful to establish the criterion for fever in LTC as an increase over the upper limit of an individual's usual daily temperature range.

When infection is suspected, temperature should be taken rectally if possible, since this yields a more accurate result than taking temperature by mouth. If you use electronic thermometers that permit temperature-taking via oral, rectal, axillary, ear canal, and other routes, check with the manufacturer to see which route gives the most accurate result.

Conditions that may Predispose LTC Residents to Infection

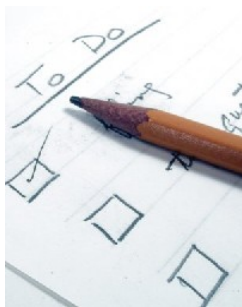
- Diabetes
- COPD
- Dysphagia
- Chronic immobility
- Pressure ulcers
- Indwelling urinary catheters and other indwelling devices
- Poorly controlled diabetes

Possible Signs of Infection in LTC Residents

- Fever
- Increasing lethargy or confusion
- Dizziness
- Weakness
- Generalized pain
- Anorexia
- Cloudy, thick, foul smelling urine
- Complaints of painful or difficult urination
- Open or draining sores
- Complaints of sore throats
- Puffy, red, runny eyes
- Stuffy or draining nose

*Excerpts taken from Vance J. Wilson KM.
 "Getting a Handle on Infection Control in Long-Term Care."
 Caring for the Ages 2001; 2(9):22-27*

Pandemic and FRI Protocol Planning



- Consult
- Educate
- Collaborate

Contact: Carrie-Lynn Haines
 376-9420 Ext. 284





Ministry of
Labour

The Ministry of Labour enforces the [Occupational Health and Safety Act](#) and its [regulations](#), which set legal requirements for employers to ensure protection of workers.

Legal Requirements:

Employers have a duty under the Occupational Health and Safety Act, section 25(1) (a) & (b), *to ensure that equipment, materials and protective devices that they provide are maintained in good condition.* Section 25(2) (h), *requires the employer to take every precaution reasonable in the circumstances for the protection of a worker.* This includes the maintenance of water systems and ventilation systems in buildings to protect workers from the hazard of Legionella exposure.

Regulations also have provisions for protection of workers from hazards, such as Legionella. The Regulation for Health Care and Residential Facilities, **Section 8, requires that the employer implement measures and procedures for worker health and safety.** Pursuant to Section 9, this may include the proper use, maintenance and operation of equipment. **Section 19 of the Health Care and Residential Facilities Regulation requires that indoor ventilation be adequate to protect the health and safety of workers and a mechanical ventilation system be inspected by a qualified person every six months to ensure it is in good condition. It also requires the ventilation system to be serviced and maintained as prescribed.** Workplace parties, such as employers, supervisors and workers, share the responsibility for occupational health and safety under the internal responsibility system. If the internal responsibility system fails to address adequately the health and safety issues in a workplace, or if the Occupational Health and Safety Act and regulations are not being followed, the Ministry of Labour has the authority to enforce the law.

Food Safety Certification Courses (12 hours)

Evening Course:

4 weeks 6:30 – 9:30
When: April 25, May 2, 9, & 16
Where: Sauble Beach

Day Courses

2 days
When: June 6, 13
Where: Owen Sound

Cost: \$75.00 (includes resource binder/thermometer/chlorine test strips and a certificate and wallet card.



Interest is currently being solicited for a course in the Durham area.

Call: Grey Bruce Health Unit (519) 376-9420 Cathie Moyse ext 365 to register or inquire about future dates.

Legionnaires' Disease

What is Legionnaires' disease?

Legionnaires' disease is caused by a type of bacteria called *Legionella*. The bacteria got its name in 1976, when many people who went to a Philadelphia convention of the American Legion suffered from an outbreak of this disease, a type of pneumonia (lung infection). Although this type of bacteria was around before 1976, more illness from Legionnaires' disease is being detected now. This is because we are now looking for this disease whenever a patient has pneumonia.

What are the symptoms of Legionnaires' disease?

Legionnaires' disease can have symptoms like many other forms of pneumonia, so it can be hard to diagnose at first. Signs of the disease can include: a high fever, chills, and a cough. Some people may also suffer from muscle aches and headaches. Chest X-rays are needed to find the pneumonia caused by the bacteria, and other tests can be done on sputum (phlegm), as well as blood or urine to find evidence of the bacteria in the body.

These symptoms usually begin 2 to 14 days after being exposed to the bacteria.

A milder infection caused by the same type of *Legionella* bacteria is called *Pontiac Fever*. The symptoms of Pontiac Fever usually last for 2 to 5 days and may also include fever, headaches, and muscle aches; however, there is no pneumonia. Symptoms go away on their own without treatment and without causing further problems.

How serious is it? What is the treatment?

Legionnaires' disease can be very serious and can cause death in up to 5% to 30% of cases. Most cases can be treated successfully with antibiotics [drugs that kill bacteria in the body], and healthy people usually recover from infection.

Where do *Legionella* bacteria come from?

The *Legionella* bacteria are found naturally in the environment, usually in water. The bacteria grow best in warm water, like the kind found in hot tubs, cooling towers, hot water tanks, large plumbing systems, or parts of the air-conditioning systems of large buildings. They do not seem to grow in car or window air-conditioners.

How do people get Legionnaires' disease?

People get Legionnaires' disease when they breathe in a mist or vapor (small droplets of water in the air) that has been contaminated with the bacteria. One example might be from breathing in the steam from a whirlpool spa that has not been properly cleaned and disinfected.

The bacteria are NOT spread from one person to another person.

Outbreaks are when two or more people become ill in the same place at about the same time, such as patients in hospitals. Hospital buildings have complex water systems, and many people in hospitals already have illnesses that increase their risk for *Legionella* infection.

Other outbreaks have been linked to aerosol sources in the community, or with cruise ships and hotels, with the most likely sources being whirlpool spas, cooling towers (air-conditioning units from large buildings), and water used for drinking and bathing.

Who gets this disease?

People most at risk of getting sick from the bacteria are older people (usually 65 years of age or older), as well as people who are smokers, or those who have a chronic lung disease (like emphysema).

People who have weak immune systems from diseases like cancer, diabetes, or kidney failure are also more likely to get sick from *Legionella* bacteria. People who take drugs to suppress (weaken) the immune system (like after a transplant operation or chemotherapy) are also at higher risk.

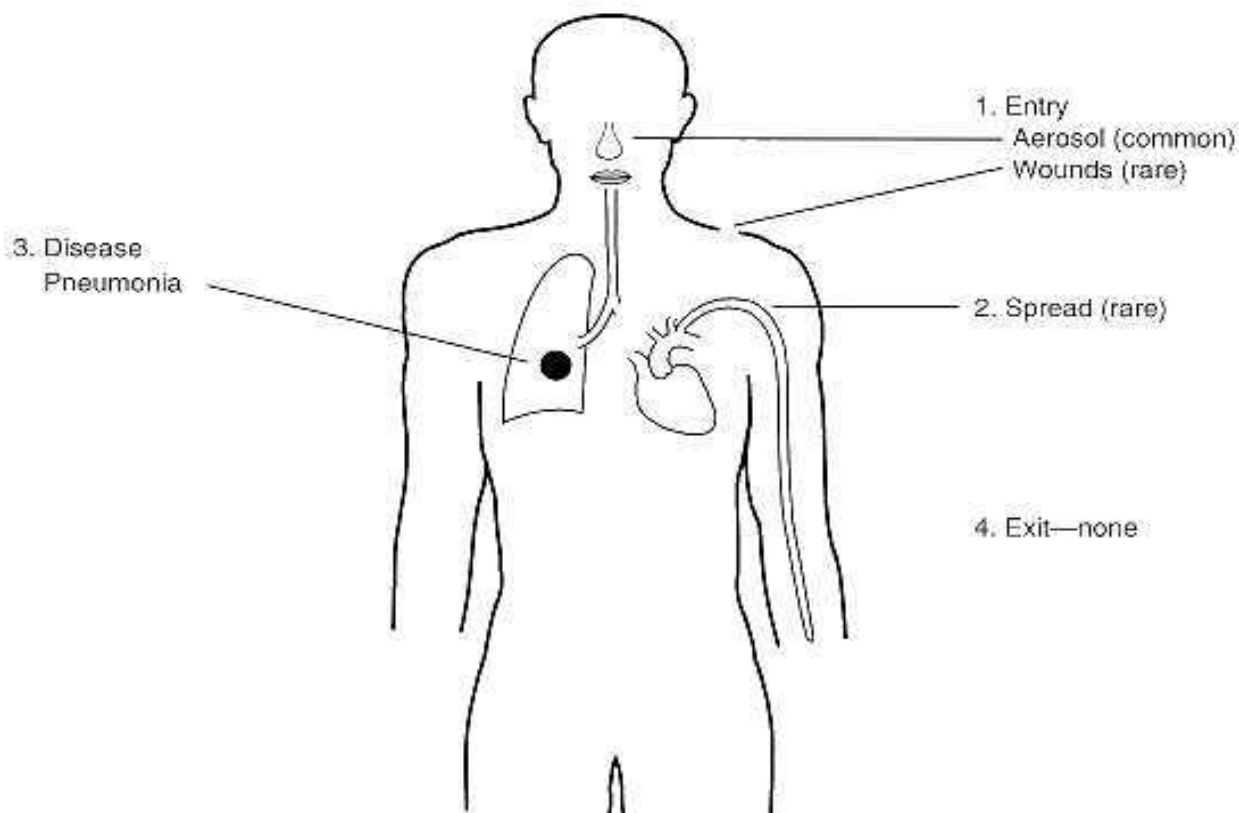


TABLE 40-1 Clinical Manifestations of *Legionella* Infections

Disease	Pneumonia	Occurrence	Attack Rate	Incubation Period	Species Implicated
Legionnaire’s disease	Almost always	Epidemic, sporadic nosocomial, community	Low	Long (days)	All, especially <i>L pneumophila</i> and <i>L micdadei</i>
Pontiac fever	Never	Epidemic community	High	Short (hours)	<i>L pneumophila</i> , <i>L ansia</i> , <i>L micdadei</i> , <i>L feefei</i>
Disseminated infection	Usually	Rare			<i>L pneumophila</i>
Primary Wound Infection	Rarely	Sporadic, nosocomial	Rare		<i>L pneumophila</i> , <i>L dumolffii</i>

Source: www.cdc.gov/ncidod/dbmd/diseaseinfo/legionellallosis_g.htm

REPORT CARD:

Progress in Protecting the Public's Health



Report of the Expert Panel on the Legionnaires' Disease Outbreak in the City of Toronto - September/October 2005

December, 2005

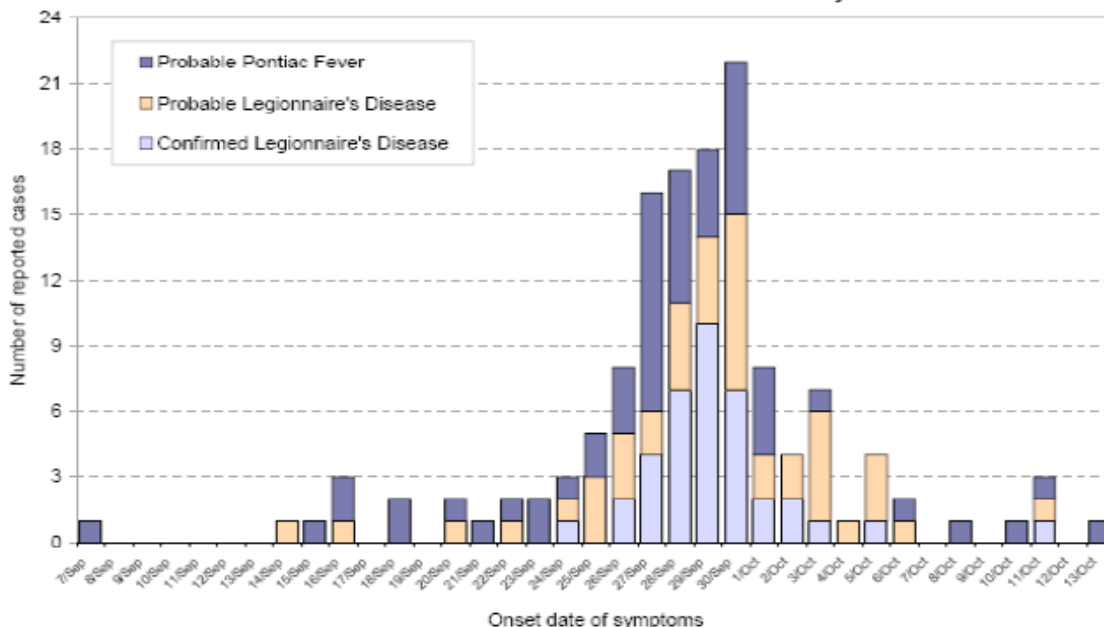
Dr. Bonnie Henry
Dr. James G. Young
Dr. David M.C. Walker (Chair)

This report, prepared by the Expert Panel on the Legionnaires' Outbreak, attempts to answer four key questions:

- When the Legionnaires' outbreak occurred, did the system do a better job of responding than it had in the past?
- Did the changes since SARS make a difference?
- What worked well?
- What can we do better in the future?

In the fall of 2005, a long-term care home in the City of Toronto experienced an outbreak of Legionnaires' disease, a type of pneumonia. A total of 135 people were infected: 70 residents, 39 staff, 21 visitors, and 5 people who lived or worked near the home. Twenty-three residents died. For the first 10 days, the cause of the outbreak was unknown.

Figure 2. Epi-curve: Number of reported legionellosis cases by onset date of respiratory symptoms and case classification. Seven Oaks and Community.



CONTACT A MEMBER OF THE INFECTIOUS DISEASES TEAM FOR A COMPLETE COPY OF THIS REPORT

West Nile Virus



Results of the 2005 WNV Season

- 225 WNV clinical cases and 14 asymptomatic cases reported to the Public Health Agency of Canada

Of the 225 clinical cases:

- 50 (22%) were reported as West Nile Virus Neurological Syndrome
- 167 (74%) were reported as West Nile Non-Neurological Syndrome
- 8 (4%) were Unclassified/Unspecified

12 deaths have been reported

- 2 Saskatchewan
- 1 Manitoba
- **8 Ontario**
- 1 Quebec

Because infection with WNV results in a higher rate of serious complications and death in the elderly, it is important that long term care facilities, assisted living facilities and rehabilitation centres take appropriate measures to reduce mosquito populations and prevent mosquito bites. Residents should be informed about the disease and advised and assisted in taking the appropriate precautions.

What steps can a facility take to protect residents from WNV?

A typical yard can generate thousands of mosquitoes every week. The key to prevention is an infection control risk assessment (ICRA) and taking the appropriate precautions to reduce the mosquito population. The ICRA should include an evaluation of places where even the tiniest amounts of water might accumulate and should be conducted 2 times per week during rainy weather.

Assess the following areas for standing water:

- Rain gutters
- Down spouts
- Roof top air conditioners (should be drained periodically as suggested by manufacturer)
- Drain tiles that are not intact
- Outdoor flower pots, trays, dishes, buckets
- Window screens missing and or torn
- Door screens (kitchen, patio, etc.) missing and or torn
- Ornamental ponds and fountains (should be drained/cleaned weekly)
- Watering system functioning on timer (be sure you not over-watering)
- Tree holes
- Standing water areas such as road side ditches, drain ditches (contact public health)



Adapted from State of California-Health and Human Services Agency-Department of Health Services

Preventing the Spread of Norovirus

Virology: Noroviruses are a group of related nonenveloped viruses that cause acute gastroenteritis in humans. Norovirus is the official genus name for the group of viruses previously described as Norwalk or Norwalk-like viruses.

Clinical manifestations: The average incubation period for norovirus-associated gastroenteritis is 12 to 48 hours, with a median of approximately 33 hours. Illness is characterized by acute onset vomiting and watery, non-bloody diarrhea with abdominal cramps and nausea. In addition, myalgia, malaise and headache commonly are reported. Low-grade fever is present in about half of cases. Dehydration is the most common complication. Symptoms usually last 24 to 60 hours.

Epidemiology of transmission: Noroviruses are highly contagious, with as few as 100 virus particles thought to cause illness. Noroviruses are transmitted primarily through the fecal-oral route, either by direct person-to-person spread via droplet routes from vomitus. These viruses are relatively stable in the environment and can survive freezing and heating to 600°C (1400°F). In health care facilities, transmission additionally can occur through hand transfer of the virus to the oral mucosa via contact with materials, fomites and environmental surfaces that have been contaminated with either feces or vomitus.

Diagnosis: Diagnosis of norovirus infection relies on the detection of viral RNA in the stools of affected persons. Identification of the virus can be best made from stool specimens taken with 48 to 72 hours after onset of symptoms.

Infection Control: Patients with suspected norovirus infection should be managed with standard precautions with careful attention to hand hygiene practices. Contact precautions should be used during an outbreak when caring for diapered or incontinent people where there is a possibility of splashes that might lead to contamination of clothing. Staff cleaning heavily contaminated areas with vomitus or feces should wear surgical masks.

Environmental disinfection: CDC recommends that chlorine bleach be applied to hard, nonporous, environmental surfaces in the event of a norovirus outbreak. A minimum concentration of 1000 ppm (1 part bleach to 50 parts water) has been shown to be effective. Because noroviruses are nonenveloped, most quaternary ammonium products (which act by disrupting viral envelopes) do not have significant activity against them.

Full text available at www.cdc.gov/ncidod/hip/default.htm

Infection Control



Drop the lid before you flush!

According to microbiologist, Dr. Charles Gerba, flushing the toilet with the lid up is not wise. “Polluted water vapour erupts out of the flushing toilet bowl and it can take several hours for these particles to finally settle—not to mention where,” he says. “If you have your toothbrush too close to the toilet, you are brushing your teeth with what’s in your toilet.”



TPD - Health Canada's Therapeutic Products Directorate

Health Canada's Therapeutic Products Directorate (TPD) is a federal authority that regulates pharmaceutical drugs and medical devices for human use.

Before drug products are authorized for sale in Canada, Health Canada reviews them to assess their safety, efficacy and quality. Drug products include prescription and non-prescription pharmaceuticals, disinfectants and sanitizers with disinfectant claims.

Prior to being given market authorization, a manufacturer must present substantive scientific evidence of a product's safety, efficacy and quality as required by the *Food and Drugs Act and Regulations*. When a product is offered for sale in Canada to treat or prevent diseases or symptoms, it is regulated as a drug under the *Food and Drugs Act*.

Complete listings of [Advisories, Warnings and Recalls for health professionals and the public](#) are available in the MedEffect section.

There are links to our [Patent Register Database](#), an alphabetical listing of patented medicines, and our [Drug Product Database](#), which contains product and company information on drug products marketed in Canada.

What is the Drug Product Database (DPD)?

The DPD contains product specific information on drugs approved for use in Canada. The database is managed by Health Canada and includes human pharmaceutical and biological drugs, veterinary drugs and disinfectant products. It contains approximately 24,000 products which companies have notified Health Canada as being marketed. Information available in the database includes the following parameters: Brand Name, Drug Identification Number (DIN), Company, Ingredient(s), Route of Administration, Pharmaceutical Form, Package Sizes, Therapeutic Classification (AHFS and ATC), Active Ingredient Group (AIG) Number, Pharmaceutical Standard and Veterinary Species. Product and company information for drug products marketed in Canada can be found using the [DPD ONLINE Query](#).

DPD ONLINE Query

DPD ONLINE Query is an HTML application that is used to search the DPD. You can search by Brand Name, DIN, AIG or Company Name. Company information includes the address and a product list.

Section 22 order Upheld by Health Facilities Appeal Board

Appellant: Health Care Aide

vs

Respondent: Medical Officer of Health, Huron County Health Unit

To issue a Section 22 Order under the Health Protection and Promotion Act, a Medical Officer of Health (MOH) must have reasonable and probable grounds to make requirements necessary to decrease or eliminate the risk to health posed by a communicable disease.

In January 2004 a Huron County nursing home experienced a laboratory confirmed outbreak of Influenza A. As per public health and facility guidelines, staff members who were unvaccinated for influenza or could not take the antiviral drug “Tamiflu” were sent home.

The Appellant is an RPN who was unvaccinated against influenza and declined to be vaccinated or to take the antiviral medication. Pursuant to the section 22 Order, she was asked to immediately leave the facility and was excluded from work during the declared outbreak.

The Appellant argued that the section 22 Order was neither reasonable nor based on scientific rationale. She challenged the requirements specified in the Section 22 Order on three bases:

1. The influenza vaccine is not effective.
2. The Appellant has natural or existing immunity.
3. The risk to resident care associated with immediate exclusion is greater than the risk associated with unvaccinated staff continuing to work.

During the appeal hearing the evidence presented on the effectiveness of annual staff vaccination against influenza vaccination was compelling. The medical opinion as reported by the Respondent’s expert witness and supported by the medical literature is credible evidence supporting that vaccine is effective against influenza. Both individual and staff vaccination lowers influenza incidence in Long Term Care Facilities. The Appeal Board found that **reasonable and probable grounds existed** that there was an immediate risk of an outbreak of the communicable disease influenza in this nursing home, that influenza presented a risk to the health of persons in the Home, and that the requirements of the section 22 Order were necessary to decrease or eliminate the risk to health presented by the communicable disease.

The appeal was **denied** on December 22, 2005 by the Health Services Appeal and Review Board.



Hang Them High

About 25% of the bottoms of women's purses have fecal bacteria on them because women set their purses down on the bathroom floor in restrooms. Hang them on the hook if one is provided OR somewhere up high in the cubicle.