(SEASONAL) INFLUENZA PROTOCOL

This protocol applies to seasonal influenza only. For novel influenza viruses and/or emerging respiratory pathogens, refer to protocols specific to those conditions (e.g., pandemic influenza).

At the time of this update, MERS CoV, H7N9 and H5N1 (Avian Influenza) are described as Severe Acute Respiratory Infections (SARIs); Please refer to the SARI Specific Disease Protocol for guidance

For guidance during an influenza outbreak, refer to the WRHA Acute Care Influenza Outbreak Management Protocol.

1. Cause/Epidemiology

There are **3 distinct types of seasonal influenza** viruses recognized: Type A, B and C.

1.1. **Influenza A** viruses are divided into subtypes based on two surface glycoproteins; the hemagglutinin (H) and the neuraminidase (N). Mutations in the genes encoding the H and N glycoproteins during replication result in the constant emergence of new strains of influenza A. Influenza A and B can cause seasonal outbreaks but antigenic variation occurs more slowly in influenza B viruses.

1.2. **Influenza B** generally causes milder disease than A and primarily affects children.

1.3. **Influenza C** is rarely reported as a cause of human illness and has not been associated with epidemics.

2. Clinical Presentation

Influenza is an acute viral infection of the respiratory tract characterized by fever, cough (usually dry), sore throat, arthralgia, myalgia and prostration. Headache and coryza may also be present. The cough can be severe and can last for two or more weeks. Fever and other symptoms, when present, usually resolve in five to seven days. Patients less than 5 years or greater than 65 years of age or immunocompromised patients **may not present with a fever.**

Influenza in children may be difficult to identify from other diseases caused by respiratory viruses. The clinical picture in children may range from the common cold to croup, bronchiolitis and viral pneumonia. In children less than 5 years of age, gastrointestinal symptoms may be present (e.g., nausea, vomiting, diarrhea).

Influenza may be clinically indistinguishable from other viral respiratory diseases (e.g., rhinovirus), and approximately 50% will not develop the classical symptoms described above.

Note: *Illness associated with novel influenza viruses may present with other symptoms.*

3. Secondary complications include:

- Pneumonia (usually bacterial) is the most frequent complication. Primary *viral* influenza pneumonia is uncommon but has a high fatality rate.
- Otitis media, particularly in children
- Death

4. **People at High Risk of Influenza-Related Complications**
   Adults (including pregnant women) and children with the following:
   - Cardiac or pulmonary disorders (including bronchopulmonary dysplasia, cystic fibrosis and asthma)
   - Diabetes mellitus and other metabolic diseases
   - Cancer, immune compromising conditions (due to underlying disease and/or therapy)
   - Renal disease
   - Anemia or hemoglobinopathy
   - Conditions that compromise the management of respiratory secretions and are associated with an increased risk of aspiration
   - Morbid obesity (BMI ≥ 40)
   - Healthy pregnant women
     - Especially those in the third trimester of pregnancy, and
     - Women up to four weeks postpartum regardless of how pregnancy ended
   - Indigenous, Métis and Inuit peoples
   - Individuals of any age who are residents of long-term care facilities
   - Individuals greater than 65 years of age
   - All children less than 5 years of age
   - Children and adolescents (age 6 months to 18 years) with the following:
     - Neurologic or neurodevelopment conditions (including seizure disorders, febrile seizures and isolated developmental delay)
     - Undergoing treatment for long periods with acetylsalicylic acid, because of the potential increase of Reye syndrome associated with influenza

5. **Reservoir and Source**
   Humans are the only known reservoir of influenza types B and C viruses. Influenza A may infect both humans and animals.

6. **Incubation Period**
   The incubation period is usually 2 days but ranges from 1-4 days.

7. **Transmission**
   Person-to-person transmission through large respiratory droplets when infected persons cough or sneeze is believed to be the primary transmission route. Respiratory secretions contain the infective material. Transmission may also occur through direct or indirect contact with respiratory secretions (e.g., touching surfaces contaminated with influenza virus and then touching the eyes, nose or mouth). Individuals with asymptomatic infection can transmit virus to susceptible individuals (e.g., asymptomatic health care worker to patient). Human influenza viruses may persist for hours on solid surfaces, particularly in lower temperatures and lower humidity.

8. **Period of Communicability**
   Adults can transmit influenza from the day before symptom onset until approximately 5 days after becoming sick. Children can transmit influenza for several days before illness onset, and can be infectious for 7-10 days after onset of illness or longer. Immunocompromised individuals may shed virus for longer periods.

9. Infection Prevention and Control Practices

Pre-influenza Season management, see Appendix A.

Patients should be immunized annually with influenza vaccine (unless contraindicated).

Implement Droplet/Contact Precautions immediately when a patient presents with an acute respiratory illness (e.g., index of suspicion for seasonal influenza) with **fever AND cough AND one or more of the following**:

- Sore throat
- Arthralgia (joint pain)
- Myalgia (muscle pain)
- Prostration (extreme physical exhaustion)

Collect nasopharyngeal specimens using flocked swabs immediately when ILI is suspected.

.Refer to Droplet/Contact Precautions in the Additional Precautions section.

10. Accommodation

Place patients with a **high index of suspicion** for influenza in a **single room** until results are confirmed. Where a single room is not available, ensure appropriate cohorting of patients:

- Do not cohort patients with a high index of suspicion for, or with, confirmed seasonal influenza with a patient not suspected of having influenza
- Cohorting of patients with a high index of suspicion for seasonal influenza (results pending) with another patient with similar presentation, may occur

Patients with a **low index of suspicion** (e.g., absence of fever, cough) **do not** immediately require isolation precautions pending results. Ensure appropriate cohorting of patients:

- Cohorting patients with a low index of suspicion for seasonal influenza with a patient not suspected of having influenza, may occur, ONLY if the roommate(s) are not at high risk for acquiring an infection (e.g., chronic lung disease, severe congenital heart disease, immunodeficiency)

Minimize exposure of immunocompromised patients, children with chronic cardiac or lung disease, neonates.
Encourage visitors to stay home when they have symptoms of an acute respiratory illness.

11. Discontinuation of Precautions for Confirmed or Suspected Influenza

Discontinue Droplet/Contact Precautions for confirmed or suspected influenza cases:

- **Non-ventilated**: after resolution of symptoms
- **Ventilated**: after clinical improvement.

Do NOT discontinue Precautions based on duration of treatment.
Do NOT discontinue Precautions based on negative influenza results.

Patients may have chronic respiratory symptoms and/or a post-viral cough, which do not require maintenance of precautions.

Resolution of symptoms/clinical improvement may be challenging to assess in the ventilated patient. **Signs of clinical improvement in a ventilated patient could include:**

- Mechanical ventilation (i.e., ventilator) discontinued
- Afebrile
- Decreased respiratory secretions
- Improved respiratory pressures (clinical judgment of Attending Physician/Respiratory Therapist)
- Improved oxygen saturation levels

If determination of respiratory symptom resolution is unclear (such as in ventilated patients or patients with a chronic respiratory disease), consult the Infection Control Professional/designate for your area during working hours or the Infectious Diseases (ID) physician on call after hours:

- Dr. Evelyn Lo @ pager: 204-932-6538 for St. Boniface Hospital concerns.
- Dr. John Embil @ pager: 204-931-9538 for all other hospitals' concerns.
- Attending Pediatric Infectious Disease Physician @ pager: 204-787-2071 for pediatric concerns.

12. Occupational and Environmental Safety and Health (OESH)

Contact Occupational and Environmental Safety and Health (OESH) for influenza vaccination, staff assessment and/or concerns.

13. References

13.1. IP&C Precautions for Patients with Suspectedor Confirmed SEASONAL Influenza Virus Infection Memo Expert Opinion. Winnipeg Regional Health Authority. (2015, October). WRHA IP&C Program.

13.2. Seasonal Influenza. Communicable Disease Management Protocol. Manitoba Public Health Branch. (2016 August). Accessed November 15, 2019.

13.3. Guidance: Infection Prevention and Control Measures for Healthcare Workers in Acute Care and Long-term Care Settings - Seasonal Influenza. Public Health Agency of Canada. (2010). Accessed November 15, 2019.

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APPENDIX A: PRE-INFLUENZA SEASON

Objectives for pre-influenza management and influenza prevention and control in Acute Care Facilities:

1. To prevent the spread of influenza among acute care patients and staff
2. To reduce the morbidity and mortality from influenza among patients
3. To decrease the number of outbreaks of influenza
4. To aim for 100% influenza immunization coverage for patients and staff

Key Interventions Pre-Influenza Season to prevent an influenza outbreak:

Educate! Vaccinate! Initiate!

- Educate staff and patients on the effectiveness, benefits and risks of influenza immunization
- Annual influenza vaccination (unless contraindicated) for both patients and staff with informed consent
- Educate staff/patients/ visitors on the importance of hand hygiene and respiratory hygiene
- Ensure eye protection, procedure/surgical masks and alcohol based hand rub (ABHR) are available
- Post visual alerts (e.g., signs, posters) at entrances and in strategic places to instruct staff/patients/visitors on respiratory hygiene
- Prompt recognition of influenza cases and suspects and the initiation of infection control measures and Additional Precautions can help prevent influenza from spreading
- Site-specific procedures developed and in place to ensure quick access to antiviral medications (e.g., Oseltamivir) in the event of an influenza outbreak. Refer to the WRHA Acute Care **Influenza Outbreak Management Protocol**.

Get immunized! Herd Immunity is more effective at preventing morbidity (illness) and mortality (death) from influenza than immunizing patients alone.

"HCWs involved in direct patient contact should consider it their responsibility to provide the highest standard of care, which includes annual influenza vaccination. In the absence of contraindications, refusal of HCWs who have direct patient contact to be immunized against influenza implies failure in their duty of care to their patients ." [1]

All HCW should use Routine Practices with a Point of Care Risk Assessment (PCRA). Prior to every patient interaction, all HCWs have a responsibility to always assess the infectious risk posed to themselves and to other patients, visitors, and HCWs by a patient, situation or procedure.

PRE- INFLUENZA SEASON: PROCESS /ROLES & RESPONSIBILITIES OF HEALTH CARE WORKERS	
For further information on INFLUENZA OUTBREAK MANAGEMENT - see the WRHA Acute Care Influenza Outbreak Management Protocol	
Unit Health Care Aide/ Unit Clerk	Report patient signs and symptoms of Influenza-like-Illness (ILI) to nursing staff immediately upon recognition
Unit Nurse	*Administer influenza and pneumococcal immunizations to all eligible patients.* See the WRHA Immunization Manual Additional details regarding vaccine eligibility criteria can be found at Manitoba Health Adverse effects following immunization are reportable to Manitoba Health. Healthcare workers must complete the *Manitoba Health Adverse Effects Following Immunization* form Ensure **informed, verbal and/or written consent** for **influenza vaccine** has been obtained from the patient prior to immunization. As per site process, consent must be documented via a consent form, medical chart/Integrated Progress Note or in the Electronic Patient Record. (EPR) At minimum, the following elements must be documented for consent: a) client identification (name and date of birth) b) statement of consent or refusal c) name of vaccine series d) date of consent e) name of person consenting or refusing f) relationship of person consenting to client being immunized g) name of person obtaining informed consent. Where applicable, ensure **informed consent** for the **pneumococcal vaccine** is also obtained. **Resources:** • *Manitoba Health- Seasonal influenza vaccine fact sheet* • *Manitoba Health Pneumococcal vaccine fact sheet* Where possible, verify serum creatinine levels are current within the year for those with normal renal function and within the last 6 months for those with impaired renal function (e.g., dialysis, chronic care). Continuously monitor patients for signs and symptoms of an ILI throughout the season and document assessment findings in the Integrated Progress Notes (IPNs) or in EPR. **Immediately initiate Droplet/Contact Precautions when ILI is suspected.**

Unit Nurse (continued)	Encourage family members and visitors to receive an influenza vaccine and **e**ducate each on their role in the transmission of influenza to patients. Encourage family members, visitors and all staff to practice respiratory hygiene to prevent the transmission of respiratory illnesses Provide educational materials on respiratory hygiene as needed Promote frequent hand hygiene
Unit Manager	Ensure the preparatory work preceding immunizations is complete Coordinate, implement and promote the patient and staff influenza immunization campaign Contact site ICP with questions regarding the WRHA patient immunization campaign Contact site Occupational Health Nurse with questions regarding the WRHA staff immunization campaign The site ICP will communicate the deadline for reporting: • Weekly reporting of Influenza and Pneumococcal vaccinations is required by the WRHA at the beginning of influenza season. The site ICP will direct you regarding the length of time the vaccination numbers need to be reported at the site. Ensure the responsibilities under the Unit Health Care Aide, Unit Clerk, and Unit Nurse have been completed
Housekeeping /Nutrition Services and Food Services/ Recreation	**Get immunized!** Herd immunity is more effective at preventing morbidity (illness) and mortality (death) from influenza than immunizing elderly individuals alone
Pharmacy	Confirm the availability of a box of Oseltamivir 75 mg (10 capsules) and a box of Oseltamivir 30 mg (10 capsules) in each site for after-hours initiation of treatment Promote influenza immunizations to staff, pharmacists, patients, volunteers and visitors/families
Attending Physicians	Order influenza immunization for patients before the influenza season Promote influenza immunizations to staff, patients, volunteers and families
Chief Medical Officer/ designate and Senior Management/ Administration	Ensure all site physicians are aware of the need to order antivirals (e.g., Oseltamivir) for treatment. Treat patients who meet the ILI definition without delay; treatment is not contingent on having an outbreak declared Promote influenza immunizations to physicians, staff, patients, volunteers, visitors and families

Medical Officer(s) of Health (MOH)	Refer to Outbreak Management Protocol
Communicable Disease Coordinators	Collaborate with the WRHA Director of IP&C to educate and update site ICPs regarding annual influenza immunization
Occupational Health/ designate	Coordinate, implement and promote the staff annual influenza immunization campaign Report the numbers of staff immunizations to WRHA Population and Public Health
Infection Control Professional/ designate	Facilitate the annual influenza immunization campaign (including pneumococcal immunizations) Communicate to site: • Start date of WRHA annual immunization season • Forms: Immunization Inputting Form for Health Care Providers, Adverse Reaction form Resources: WRHA Immunization Manual, MB Health Fact Sheets (Seasonal Influenza, Pneumococcal), MB Health Informed Consent Guidelines • Be a resource to the site • Report patient immunizations as required Coordinate the collection of the patient immunization numbers, communicate the plan for data collection (method and frequency) to the appropriate individuals, and then report the findings to the WRHA Program Director, Infection Prevention and Control Investigate reports of ILI to confirm an ILI outbreak is occurring. Ensure there is a mechanism to order antivirals for chemoprophylaxis (e.g., Oseltamivir) in the event of an outbreak For influenza outbreaks, refer to the WRHA Acute Care Influenza Outbreak Management Protocol
Site IP&C Clinical Team Lead/WRHA Director for IP&C	Review and update the Acute Care Influenza Management Protocol and supporting documents in collaboration with the Regional IP&C committee (or sub-committees), as required Provide educational resources and information to ICPs to facilitate the launch of the annual influenza immunization campaign and seasonal outbreak response preparedness each year

Reference

1. Statement of Seasonal Influenza Vaccine for 2013-2014. National Advisory Committee on Immunization (NACI). An Advisory Committee Statement (ACS). Can Comm Dis Rep. 2013; 39(ACS-4). Accessed November 15, 2019.