

# Bulletin for Physicians Pandemic (H1N1) 2009

**Date:** October 22, 2009  
**From:** AHS Pandemic Coordination Centre  
**Re:** Influenza: Clinical Presentation and Management

\* This document is meant to provide a quick reference to community physicians when there is predominance of pandemic influenza already in the community. Use with attached algorithm. It is recommended that physicians refer to Annex G *Canadian Pandemic Influenza Plan – Public Health Agency of Canada June 2009 update* (<http://www.phac-aspc.gc.ca/cpip-pclcpi/index.html>) for complete information.

### **Clinical Case Definition**

**ADULT:** Acute onset of NEW cough or change in existing cough PLUS one or more of the following: Fever (> 38°C arrival /history), sore throat, joint pain, muscle aches, severe exhaustion

**PEDIATRIC:** Acute onset of any of the following: runny nose, cough, sneezing, +/- fever

- GI symptoms such as vomiting / diarrhea may also occur particularly in children < 5 years of age.

\* with a community background of significant influenza as defined by Chief Medical Officer of Health

**Features of an initial influenza illness assessment that require the patient to undergo secondary assessment in an Emergency Department:**

	<b>Adults &gt;=18 years</b>	<b>Children &lt;18 years</b>
<b>Temperature</b>	<35°C or >39°	<35°C or >39°(should be accompanied by other signs/symptoms)
<b>Pulse</b>	New arrhythmia (irregular pulse) >100 beats/minute (if > 16 years)	Heart rate outside of normal ranges (PALS ref) Newborn/3mth 85 to 205 3mth to 2y 60 to 140 2y to 10y 60 to 100 *heart rate may go up with fever – look for additional signs
<b>Blood Pressure</b>	< 100 systolic Dizziness on standing	Systolic bp < 70 + 2x age in years
<b>Respiratory Rate</b>	>24/minutes (tachypnea)  perception of / shortness of breath (dyspnea)	< 2 months = ≥ 60 breaths per min 2 – 12 months = ≥ 50 breaths per min > 12 months to 5 years = ≥ 40 breaths per minute > 5 years = ≥ 30 breaths per minute
<b>Skin Color (lips, hands)</b>	Cyanosis	Cyanosis, Sudden pallor, Cold legs up to the knee
<b>Chest signs or symptoms</b>	Chest pain or any abnormality on auscultation	Chest indrawing, Wheezing, Grunting, Inquire for chest pain (hard to detect in young children)
<b>Mental status</b>	New confusion	Lethargic or unconscious, confused
<b>Function</b>	New inability to function independently, Vomiting (2-3 times/24hr.)	Unable to breastfeed or drink, Persistent vomiting (>2-3 times/24hr.) Decreased tears, poor urine output (<1 void every 6 to 8 hours)
<b>Neurologic Sx/signs</b>		Convulsion, Full fontanelle, Stiff neck, Photophobia
<b>Oxygen Saturation</b>	<90% room air	<90% room air

**Who needs to be tested for influenza?** (by nasopharyngeal swab placed in universal / viral transport media)

- Those with severe disease / requiring hospitalization
- Testing patients with co-morbidities (below) is not necessary as a determinant or condition of anti-viral treatment but may be indicated if the results could alter other management or treatment strategies (if antiviral treatment is warranted / indicated, do NOT wait for results to start antivirals)

**Additional Investigations (Lab and DI)**

- ***should be limited to patients with complications and / or comorbidities requiring management changes dependent on investigation results***

**Community Treatment:**

- **Self care** at home - maintain hydration, fever and pain management, other therapies such as anti-tussives may occasionally be indicated depending on the clinical features and age of the given patient ( not recommended for children < 12 yr), instructions for return
- **Ensure management of comorbid conditions / pre-existing disease** as resources allow
- **Antiviral treatment, if used, should NOT wait for results of laboratory testing**
- **Early treatment (within 48 hours of symptom onset) with antivirals can be considered for any patient but is strongly recommended for:**
  - Anyone with severe disease
  - Children younger than 2 years (Children 2 to 4 years may have some benefit but side effect of vomiting may preclude use)
  - Individuals 65 years of age or older
  - Pregnant women (including up to 4 weeks postpartum)
  - Individuals younger than 19 years of age receiving long-term aspirin therapy (risk for Reye syndrome after influenza infection)
  - Individuals of any age with chronic medical conditions requiring ongoing medical care, including:
    - Chronic lung disease, including asthma (especially if systemic steroids used in past year)
    - Cardiovascular disease, except isolated hypertension
    - Active malignancy
    - Chronic renal insufficiency, Chronic liver disease, Diabetes mellitus
    - Hemoglobinopathies such as sickle cell disease
    - Immunosuppression, including HIV infection (particularly if CD4 <200 cells/microL), organ or hematopoietic stem cell transplantation, inflammatory disorders treated with immunosuppressants
    - Individuals who have any condition that can compromise handling of respiratory secretions (eg, cognitive dysfunction, spinal cord injuries, seizure disorders, neuromuscular disorders, cerebral palsy, metabolic conditions)
    - Children with an underlying metabolic disorder, such as medium-chain acyl-CoA dehydrogenase deficiency, who are unable to tolerate prolonged fasting
    - Obesity (especially BMI >35)
    - Asplenic individuals (not at higher risk for H1N1 complications but secondary bacterial infections)
    - Close contacts of patients with high risks as noted above
  - Vulnerable population groups, such as those living in remote/isolated communities, including First Nations, Inuit and Métis, and the homeless.

- Alberta Health & Wellness has distributed antiviral agents to community pharmacies throughout the province to be dispensed free-of-charge to ILI patients with a valid prescription **AND** who fall into one of the above groups (severe disease or increased risk of severe disease). “Free” antivirals will also be available at Influenza Assessment Centres if / once they are opened.
- Antiviral medications are **not routinely** recommended for healthy individuals who are **not** included in one of the above groups and who are mildly / moderately ill with influenza. However, clinical judgment is required and treatment decisions can be considered on a case-by-case basis, particularly for patients with disease of moderate severity and / or rapid onset. If physicians choose to treat persons who do not have severe disease and / or one of the above risk factors for severe disease, the prescription should indicate that the patient must pay for the drug.

**Osetamivir dosage (Tamiflu): (reference Lexi-comp)**

- Adult and Children >12 years of age dose: 75mg twice daily for 5 days
- Children ≥1-12 years:
  - ≤15 kg: 2 **mg/kg**/dose twice daily for 5 days (maximum dose: 30 **mg**)
  - >15 kg to 23 kg: 45 **mg**/dose twice daily for 5 days
  - >23 kg to 40 kg: 60 **mg**/dose twice daily for 5 days
  - >40 kg: 75 **mg**/dose twice daily for 5 days
- Children < 1 year
  - <3 months: 12 **mg** twice daily for 5 days
  - 3-5 months: 20 **mg** twice daily for 5 days
  - 6-11 months: 25 **mg** twice daily for 5 days
- Dose adjustments needed for patients with poor kidney function – ask pharmacist

**Zanamavir dosage (Relenza)**

- Adults and Children >7 years of age
- Treatment: Oral inhalation: Two inhalations (10 mg total) twice daily for 5 days. Doses on first day should be separated by at least 2 hours; on subsequent days, doses should be spaced by ~12 hours. Begin within 2 days of signs and symptoms.
- Children < 7 years of age – not indicated

- Prophylaxis is not recommended except in rare circumstance – consult MOH
- **Antibiotics** only for secondary bacterial pneumonia (clinical deterioration after a period of improvement and/or radiographic consolidation). **Uncomplicated Influenza should not be treated with antibiotics.**
- See Community Acquired Pneumonia guidelines for detailed choice of antibiotics <http://www.topalbertadoctors.org/cpq.html#respiratory>
- See the attached algorithm “**Influenza Illness Assessment**”

# Influenza Illness Assessment

## ALGORITHM FOR THE ASSESSMENT OF PATIENTS

