Urgent ● Immediate Attention Required ● Urgent

Alberta Health Services

Bulletin for Physicians
Pandemic (H1N1) 2009

Date: October 20, 2009
To: Alberta Physicians
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:

	Adults >=18 years	**Children <18 years**
Temperature	<35°C or >39°	<35°C or >39°(should be accompanied by other signs/symptoms)
Pulse	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
Blood Pressure	< 100 systolic Dizziness on standing	Systolic bp < 70 + 2x age in years
Respiratory Rate	>24/minutes (tachypnea) perception of / shortness of breath (dyspneoa)	< 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
Skin Color (lips, hands)	Cyanosis	Cyanosis, Sudden pallor, Cold legs up to the knee
Chest signs or symptoms	Chest pain or any abnormality on auscultation	Chest indrawing, Wheezing, Grunting, Inquire for chest pain (hard to detect in

		young children)
Mental status	New confusion	Lethargic or unconscious, confused
Function	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)
Neurologic Sx/signs		Convulsion, Full fontanelle, Stiff neck, Photophobia
Oxygen Saturation	<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
- Those patients with co-morbidities in whom test results may alter management (if 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 antitussives 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.
- “Free” (government funded) antiviral medications are accessed by writing prescription that includes a notation of *“high risk”* or *“severe disease”* as the indication, and can be obtained at local pharmacies or Influenza Assessment Centres
- 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. If physicians choose to treat such patients, particularly those with disease of moderate severity and / or rapid onset, antivirals will not be supplied “free” through the government-funded stockpile

Oseltamivir 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/cpg.html#respiratory
- Surveillance information will be posted to the Alberta Health Services Health Professionals section daily (http://www.albertahealthservices.ca/660.asp)

Influenza Illness Assessment

ALGORITHM FOR THE ASSESSMENT OF PATIENTS