

## **Recommendations for Treatment & Prophylaxis of Influenza for Adults in the 2008-09 Season**

### **JHH Antibiotic Management Program**

Influenza A viruses, including two subtypes (H1N1) and (H3N2), and influenza B viruses, currently circulate worldwide. The CDC has recently issued interim recommendations for antiviral treatment of influenza during the 2008-09 season as the result of a significant increase in oseltamivir-resistance reported among influenza A (H1N1) viruses worldwide. Of the 50 H1N1 viruses tested to date from 12 states in the US, 98% were resistant to oseltamivir, and all were susceptible to zanamivir and adamantanes (Amantadine, Rimantadine). Influenza A (H3N2) virus strains are resistant to adamantanes (Amantadine, Rimantadine), but remain susceptible to neuraminidase inhibitors (Oseltamivir, Zanamivir). There are no neuraminidase inhibitor resistance concerns with influenza B viruses and adamantanes are not active against influenza B viruses.

Note: Rapid diagnostics cannot differentiate between H1N1 and H3N2 strains of Influenza A

### **Indications for Treatment of Influenza**

Patients with suspected or proven influenza with symptoms beginning NO more than 48 hours prior to initiation of therapy AND have one or more of the following:

- Positive influenza antigen or DFA or culture growing influenza
- Symptoms highly suggestive of influenza: T> 38°C AND myalgia, arthralgia, headache, sore throat (NOT isolated sinus symptoms or rhinorrhea unless positive influenza antigen or culture)
- New interstitial pneumonia with no other identifiable cause

Consideration can be given to treating patients who are immunocompromised or hospitalized because of influenza who are outside of the 48 hour window, although no data exist to show significant benefit at this point.

### **JHH Treatment Recommendations for Inpatients**

#### **Influenza A or unknown type**

- Preferred: Oseltamivir PO + Amantadine PO
- Alternative: Zanamivir inhaler (non-formulary, requires ID approval)
- **Note:** Zanamivir should NOT be used in patients who are intubated, in respiratory distress, with chronic underlying airway diseases (due to the risk of bronchospasm and decline in lung function)

#### **Influenza B**

- Oseltamivir PO

### **JHH Treatment and Prophylaxis Recommendations for Outpatients**

Note: Monument Street Outpatient Pharmacy stocks Zanamivir inhalers; other pharmacies may not stock Zanamivir. Zanamivir should NOT be used in patients with chronic underlying airway diseases (due to the risk of bronchospasm and decline in lung function).

#### **Influenza A or unknown type**

- Zanamivir inhaler
- OR
- Oseltamivir PO + [Rimantadine PO OR Amantadine PO]

#### **Influenza B**

- Oseltamivir PO OR Zanamivir inhaler

### **Post-exposure prophylaxis**

- Use same agents as above based on influenza strain exposure
- Duration: 5 days

For further questions regarding treatment/prophylaxis contact the Antibiotic Management Program at 7-4570.

Antiviral Dosing Recommendations for patients with normal renal or hepatic function	Adult Dosing	Notes
Oseltamivir	<b>Treatment:</b> 75 mg ORALLY twice a day for 5 days <b>Prophylaxis:</b> 75 mg ORALLY once a day	Dose adjustment needed for GFR <30 ml/min
Zanamivir	<b>Treatment:</b> 10 mg (2 ORAL INHALATIONS) twice daily for 5 days <b>Prophylaxis:</b> 10 mg (2 ORAL INHALATIONS) once a day	Should NOT be used in patients with chronic underlying airway diseases
Amantadine	<b>Treatment/Prophylaxis:</b> 100 mg ORALLY twice a day or 200 mg once daily	Dose adjustment needed for GFR <50 ml/min
Rimantadine	<b>Treatment/Prophylaxis:</b> < 65 y/o 100 mg ORALLY twice a day ≥ 65 y/o 100 mg ORALLY once daily	Dose adjustment needed for GFR ≤10 ml/min and severe hepatic dysfunction

## **Instructions for Respiratory Virus Testing and Isolation Precautions for Adult Patients**

### Hospital Epidemiology and Infection Control

**Test the following patients:** clinical suspicion of respiratory virus infection, influenza-like symptoms (fever, runny nose, cough and body aches), suspected bronchiolitis/pneumonia (increasing oxygen requirement, sputum production)

**Use droplet precautions for all patients with suspected respiratory virus infection** (flu-like symptoms, bronchiolitis/ pneumonia or any patient on whom a specimen is sent for respiratory virus testing.)

- Discontinue isolation if antigen negative, culture negative at 5 days **AND** respiratory symptoms resolved.
- To discontinue isolation before the end of the 5 day period:
  - Immunocompetent adults: if the antigen is negative AND low level of clinical suspicion, the physician/designee must call HEIC for approval.
  - Immunocompromised adults: if antigen negative AND never had respiratory symptoms AND low level of clinical suspicion, the physician/designee must call HEIC for approval.

**Use droplet precautions for all patients with a positive test for influenza, RSV, adenovirus, parainfluenza, or hMPV.**

- To discontinue isolation for a patient with laboratory confirmed respiratory virus infection the following criteria must be met:
  - Immunocompetent adults: discontinue isolation 5 days after symptom onset if symptoms have resolved; if still symptomatic at 5 days: re-test and remove isolation if antigen negative, if positive re-test again in 5 days. Influenza patients on neuraminidase inhibitors for 3 days can have isolation discontinued
  - Immunocompromised adults: a *single culture negative* is required to discontinue isolation. Test when symptoms have resolved (no sooner than 5 days after symptom onset); isolation may be discontinued if the *culture is negative at 10 days*. Call HEIC for any questions regarding a patient's immune status.

## **Management of Hospital Personnel During Respiratory Virus Season**

- Personnel with direct patient care or working in clinical areas who have not received the influenza vaccine are required to wear a mask when within 3 feet of a patient.
- Personnel who are febrile and have respiratory symptoms must stay at home.
- Personnel who become ill with fever and respiratory symptoms while at work must be tested for influenza and RSV. Occupational Health provides this service at the Employee Health and Wellness Center, Phipps 351 Monday-Friday from 7:30 am-4:00pm. After hours, the staff member should contact Centrex to reach the Occupational Health nurse on-call for an assessment before reporting to the Emergency Department where a nasopharyngeal aspirate will be obtained.
- Personnel with respiratory symptoms but no fever must wear a surgical mask when within 3 feet of a patient.

For further questions regarding respiratory virus isolation contact HEIC at 5-8384 or view the Respiratory Virus Policy at [http://www.insidehopkinsmedicine.org/hpo/policies/39/131/policy\\_131.pdf](http://www.insidehopkinsmedicine.org/hpo/policies/39/131/policy_131.pdf)