

Seasonal Influenza and Prevention

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Seasonal influenza (or flu) is a very contagious respiratory disease caused by influenza viruses. During May to October of 2015, influenza A (H₃N₂, H₁N₁) and influenza B viruses co-circulated world-wide (1). These viruses, particularly H₁N₁ and H₃N₂, can cause mild to very severe illness. Serious outcomes of disease and complications can lead to hospitalization and death (2). High-risk individuals are more likely to develop serious complications. High-risk populations include the very young, the elderly, those with chronic renal disease, heart failure, or asthma; and the immune-compromised (cancer or human immunodeficiency virus infection).

The best way to prevent illness is annual vaccination (1, 2). Influenza antiviral medications, as well as vaccination, are recommended for prophylaxis when an unvaccinated patient is high-risk and faced with disease. Antiviral medications are 70% to 90% effective in the prevention of influenza and are useful adjuncts to influenza vaccination (3-5). Vaccination is recommended for the following populations (1, 2):

- 1- Children younger than 5 years,
- 2- Adults aged 65 years and older,
- 3- Persons with chronic pulmonary disease (including asthma); cardiovascular disease (except hypertension alone); renal, hepatic, and hematological disorders including sickle cell anemia; diabetes mellitus; and neurologic diseases including epilepsy, seizure, cerebral palsy, and muscular dystrophy,
- 4- Persons younger than 19 years, who are receiving long-term aspirin therapy,
- 5- Persons with immunosuppression, including that caused by medications or by HIV infection,
- 6- Pregnant women or postpartum mothers (within two weeks after delivery),
- 7- Residents of nursing homes and other chronic care facilities,

8- Health care staff.

Vaccination is the first and best way to prevent illness. However, a history of flu vaccination cannot rule out the possibility of influenza infection in patients with compatible clinical signs and symptoms. Antiviral treatment is advised within 48 hours of illness onset, not only for high-risk groups, but also for previously healthy symptomatic patients with confirmed or suspected influenza on the basis of clinical judgment (3, 4). Oral oseltamivir, inhaled zanamivir, or intravenous peramivir are the best drugs for treatment of influenza infection. It is possible that some viruses have become resistant to oseltamivir and peramivir, but remain susceptible to zanamivir; this is reported more frequently for influenza A H₁N₁ viruses (5). Although it is not FDA-approved, the use of oral oseltamivir for treatment of influenza in infants less than 14 days old, and for chemoprophylaxis in infants 3 months to 1 year of age is recommended by the CDC and the American academy of pediatrics (committee on infectious diseases, 2014) (2-5). When a physician employs antiviral drugs, he/she must consider the patient's age, weight, and renal function, comorbid conditions, indications for drug use (chemoprophylaxis or therapy) and possible interactions with other medications.

Footnote

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