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**CDC Health Advisory**

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**Recommendations for Early Empiric Antiviral Treatment in  
Persons with Suspected Influenza who are at Increased Risk of  
Developing Severe Disease**

**Summary Recommendations:** *When treatment of influenza is indicated in a patient with suspected influenza, health care providers should initiate empiric antiviral treatment as soon as possible. Waiting for laboratory confirmation of influenza to begin treatment with antiviral drugs is not necessary. Patients with a negative rapid influenza diagnostic test should be considered for treatment if clinically indicated because a negative rapid influenza test result does not rule out influenza virus infection. The sensitivity of rapid influenza diagnostic tests for 2009 H1N1 virus can range from 10% to 70%, indicating that false negative results occur frequently.*

**Situation**

The 2009 pandemic H1N1 influenza virus continues to be the dominant influenza virus in circulation in the U.S. The benefit of antiviral treatment is greatest when it is initiated as early as possible in the clinical course. Several recent reports have indicated two problems related to antiviral treatment: (1) some patients with suspected influenza who are at higher risk of developing severe complications, including hospitalized patients, were not treated at all with antiviral medications because of a negative rapid influenza diagnostic test result and (2) initiation of treatment was delayed for some patients with suspected influenza who are at higher risk of developing severe complications, including hospitalized patients, because clinicians were waiting for results of real-time reverse transcriptase-polymerase chain reaction (rRT-PCR) assay.

**Who is prioritized for treatment with influenza antiviral drugs?**

Most healthy persons (i.e., those without a condition which puts them at higher risk for complications) who develop an illness consistent with uncomplicated influenza do not need to be treated with antiviral medications and will recover without complications. However, clinical judgment should be the ultimate guide in making antiviral treatment decisions for ill persons who are not at higher risk for complications from influenza.

Early empiric treatment with oseltamivir or zanamivir is recommended for all persons with suspected or confirmed influenza requiring hospitalization. Prompt empiric outpatient antiviral therapy is also recommended for persons with suspected influenza who have symptoms of lower respiratory tract illness or clinical deterioration regardless of previous health or age.

Early empiric treatment should be considered for persons with suspected or confirmed influenza who are at higher risk for complications, even if not hospitalized, including:

- Children younger than 2 years old
- Adults 65 years and older
- Pregnant women
- Persons with the following conditions:

- Chronic pulmonary (including asthma), cardiovascular (except hypertension), renal, hepatic, hematological (including sickle cell disease), or metabolic disorders (including diabetes mellitus);
- Disorders that can compromise respiratory function or the handling of respiratory secretions or that can increase the risk for aspiration (e.g., cognitive dysfunction, spinal cord injuries, seizure disorders, or other neuromuscular disorders)
- Immunosuppression, including that caused by medications or by HIV;
- Persons younger than 19 years of age who are receiving long-term aspirin therapy, because of an increased risk for Reye syndrome.

### **When should health care providers start treatment with antiviral drugs?**

Once the decision to administer antiviral treatment is made, oseltamivir or zanamivir should be initiated as soon as possible. Evidence for benefit from antiviral treatment in studies of seasonal influenza is strongest when treatment is started within 48 hours of illness onset. However, some studies of oseltamivir treatment of hospitalized patients with seasonal influenza have indicated benefit, including reductions in mortality or duration of hospitalization, even for patients whose treatment was started more than 48 hours after illness onset.

When treatment is indicated, **health care providers should not wait for laboratory confirmation of influenza to begin oseltamivir or zanamivir treatment of patients with suspected 2009 pandemic H1N1 influenza virus infection. *Patients with a negative rapid influenza diagnostic test should be considered for treatment if clinically indicated because a negative result does not rule out influenza virus infection.*** The sensitivity of rapid influenza diagnostic tests to detect 2009 H1N1 virus in respiratory specimens ranges from 10% to 70%, and therefore false negative results occur frequently. Similarly, false negative results can also occur with immunofluorescence assays.

### **What actions should health care providers take when waiting for influenza test results?**

Health care providers should empirically treat persons with suspected influenza illness who are at increased risk for complications if clinically indicated while influenza test results are pending. Antiviral treatment is most effective when administered as early as possible in the course of illness. The rRT-PCR tests are the most sensitive and specific influenza diagnostic tests, but they may not be readily available, obtaining test results may take one to several days, and test performance depends on the individual rRT-PCR assay. Antiviral treatment should not be delayed until rRT-PCR test results are available.

### **For More Information**

Updated Interim Recommendations for the Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season:

<http://www.cdc.gov/H1N1flu/recommendations.htm>

Interim Recommendations for Clinical Use of Influenza Diagnostic Tests During the 2009-10 Influenza Season: [http://www.cdc.gov/h1n1flu/guidance/diagnostic\\_tests.htm](http://www.cdc.gov/h1n1flu/guidance/diagnostic_tests.htm)

Questions & Answers:

Antiviral Drugs, 2009-2010 Flu Season: <http://www.cdc.gov/h1n1flu/antiviral.htm>

Influenza Diagnostic Testing: [http://www.cdc.gov/h1n1flu/diagnostic\\_testing\\_clinicians\\_qa.htm](http://www.cdc.gov/h1n1flu/diagnostic_testing_clinicians_qa.htm)

Updated Interim Recommendations for Obstetric Health Care Providers Related to Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2009-2010 Season:

[http://www.cdc.gov/H1N1flu/pregnancy/antiviral\\_messages.htm](http://www.cdc.gov/H1N1flu/pregnancy/antiviral_messages.htm)

Antiviral Drugs: Summary of Side Effects: <http://www.cdc.gov/flu/protect/antiviral/sideeffects.htm>

General information for the public on antiviral drugs is available in "2009 H1N1 and Seasonal Flu: What You Should Know About Flu Antiviral Drugs" at <http://www.cdc.gov/H1N1flu/antivirals/geninfo.htm> .

Downloadable brochures and informational flyers, including one on antiviral drugs, are available at <http://www.cdc.gov/h1n1flu/flyers.htm> .

For the FDA page on antiviral influenza drugs:  
<http://www.fda.gov/Drugs/DrugSafety/InformationbyDrugClass/ucm100228.htm>

For additional information, you can also call CDC's toll-free hotline, 800-CDC-INFO (800-232-4636) TTY: (888) 232-6348, which is available 24 hours a day, every day.

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