

Health Advisory:

Recommendations for Obstetric Health Care Providers Related to Use of Influenza Antiviral Medications

January 11, 2011

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Health Advisories provide important information for a specific incident or situation, including that impacting neighboring states; may not require immediate action.

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**FROM: MARGARET T. DONNELLY
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SUBJECT: Recommendations for Obstetric Health Care Providers Related to Use of Influenza Antiviral Medications for the 2010-11 Season

The Centers for Disease Control and Prevention (CDC) recently released **Updated Recommendations for Obstetric Health Care Providers Related to Use of Antiviral Medications in the Treatment and Prevention of Influenza for the 2010-2011 Season** (http://www.cdc.gov/flu/professionals/antivirals/avrec_ob2011.htm?s_cid=ccu010311_007). These recommendations are reproduced below, along with links to additional information on influenza antiviral medications, influenza vaccine, and influenza testing.

The updated CDC recommendations for obstetric providers are consistent with current recommendations for influenza antiviral treatment from the Advisory Committee on Immunization Practices. In addition, CDC convened a meeting of experts on August 12-13, 2010, to review the evidence and provide input on treatment and prevention of influenza during pregnancy. Experts in the fields of influenza, obstetrics, pediatrics, pharmacy, teratology, maternal-fetal medicine, preventive medicine, public health, emergency response, and others participated in the meeting. Data from the 2009-2010 influenza season showed that women who were treated early with antiviral medications were less likely to be admitted to an intensive care unit and less likely to die (Siston et al., 2010; Louie et al., 2010). In addition, available data suggest that neuraminidase inhibitors (oseltamivir and zanamavir) are not teratogenic (Rasmussen et al., 2009; Tanaka et al., 2009; Greer et al., 2010). These treatment recommendations will be updated as needed.

Treatment

- Pregnant women are at higher risk for severe complications and death from influenza. Changes in the immune, respiratory, and cardiovascular systems that occur during pregnancy result in pregnant women being more severely affected by certain pathogens, including influenza.
- Postpartum women, who are in transition to normal immune, cardiac, and respiratory function, should be considered to be at increased risk of influenza-related complications up to 2 weeks postpartum (including following pregnancy loss).
- Treatment with antiviral medications is recommended for pregnant women or women who are up to 2 weeks postpartum (including following pregnancy loss) with suspected or confirmed influenza and can be taken during any trimester of pregnancy.
- For treatment of pregnant women or women who are up to 2 weeks postpartum with suspected or confirmed influenza, oseltamivir is currently preferred. The duration of antiviral treatment is 5 days. See Table 1 (below) for dosing information.

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- Hospitalized patients with severe infections (such as those with prolonged infection or who require intensive care unit admission) might require longer treatment courses. Some experts have advocated use of increased (doubled) doses of oseltamivir for some severely ill patients, although there are no published data demonstrating that higher doses are more effective.
- Oseltamivir and zanamivir are antiviral medications that are FDA approved for treatment of influenza. Pregnancy should not be considered a contraindication to oseltamivir or zanamivir use. These medications are "Pregnancy Category C" medications, indicating that no clinical studies have been conducted to assess the safety of these medications for pregnant women. However, the available risk-benefit data indicate that pregnant women with suspected or confirmed influenza should receive prompt antiviral therapy.
- Treatment should be initiated as early as possible because studies show that treatment initiated early (i.e., within 48 hours of illness onset) is more likely to provide benefit. However, some studies of hospitalized patients with influenza, including an analysis of hospitalized pregnant women, have suggested benefit of antiviral treatment even when treatment was started more than 48 hours after illness onset.
- Treatment should not wait for laboratory confirmation of influenza because laboratory testing can delay treatment and because a negative rapid test for influenza does not rule out influenza. Pregnant women are considered to be at higher risk of influenza complications by the Advisory Committee on Immunization Practices, and thus, empiric treatment is recommended. Treatment decisions, especially those involving empiric treatments, should be informed by knowledge of influenza activity in the community.
- At this time, nearly all influenza viruses are susceptible to oseltamivir and zanamivir. However, antiviral treatment regimens might change depending on new antiviral resistance or viral surveillance information.
- Since rapid access to antiviral medications is important, health care providers who care for pregnant and postpartum (including following pregnancy loss) women should develop methods to ensure that treatment can be started quickly after symptom onset. Actions that will support early treatment initiation include:
 - Informing pregnant and postpartum (including following pregnancy loss) women of signs and symptoms of influenza and the need for early treatment after onset of symptoms. Typical manifestations of influenza include fever, cough, rhinorrhea, sore throat, headache, shortness of breath, and myalgia. Some patients with influenza have vomiting, diarrhea, or conjunctivitis, and some have respiratory symptoms without fever.
 - Ensuring rapid access to telephone consultation and clinical evaluation for pregnant and postpartum (including following pregnancy loss) women.
 - Considering empiric treatment of pregnant women and women who are up to 2 weeks postpartum (including following pregnancy loss) based on telephone contact if hospitalization is not indicated and if this will substantially reduce delay before treatment is initiated.
- Fever in pregnant women should be treated because of the risk that it appears to pose to the fetus. Acetaminophen appears to be the best option for treatment of fever during pregnancy.

Chemoprophylaxis

- Post-exposure antiviral chemoprophylaxis can be considered for pregnant women and women who are up to 2 weeks postpartum (including following pregnancy loss) who have had close contact with someone likely to have been infectious with influenza. *Close contact, for the purposes of this document*, is defined as having cared for or lived with a person who has confirmed, probable, or suspected influenza, or having been in a setting where there was a high likelihood of contact with respiratory droplets and/or body fluids of such a person, including having talked face-to-face with a person with suspected, probable, or confirmed influenza illness.
- The drug of choice for chemoprophylaxis of pregnant women and women who are up to 2 weeks postpartum (including following pregnancy loss) is less clear. Zanamivir may be the preferable antiviral for chemoprophylaxis of pregnant women because of its limited systemic absorption. However, respiratory complications that may be associated with zanamivir because of its inhaled route of administration need to be considered, especially in women at risk for respiratory problems. For these women, oseltamivir is a reasonable alternative. The duration of antiviral chemoprophylaxis post-exposure is 10 days after the last known exposure. See Table 1 (below) for dosing information.
- Early treatment is an alternative to chemoprophylaxis for some pregnant and postpartum (including following pregnancy loss) women who have had contact with someone likely to have been infectious with influenza. Clinical judgment is an important factor in treatment decisions. Pregnant women and women who are up to 2 weeks postpartum (including following pregnancy loss) who are given post-exposure chemoprophylaxis should be informed that the chemoprophylaxis lowers but does not eliminate the risk of influenza and that protection stops when the medication course is stopped. Those receiving chemoprophylaxis should be encouraged to seek medical evaluation as soon as they develop a febrile respiratory illness that might indicate influenza.
- All pregnant women should be counseled about the early signs and symptoms of influenza infection and advised to immediately call for evaluation if clinical signs or symptoms develop while these women are pregnant or are in the first two weeks after delivery or pregnancy loss.

Table 1. Antiviral medication dosing recommendations for treatment or chemoprophylaxis of influenza infection

Table extracted from *IDSA guidelines for seasonal influenza* (<http://cid.oxfordjournals.org/content/48/8/1003.full>)

Agent, group	Treatment	Chemoprophylaxis
Oseltamivir		
Adults	75-mg capsule twice daily for 5 days	75-mg capsule once daily for 10 days
Zanamivir		
Adults	10 mg (2 inhalations) twice daily for 5 days	10 mg (2 inhalations) once daily for 10 days

References:

Greer LG, Sheffield JS, Rogers VL, Roberts SW, McIntire DD, Wendel GD, Jr. Maternal and neonatal outcomes after antepartum treatment of influenza with antiviral medications. *Obstet Gynecol* 2010;115:711-6.

Louie JK, Acosta M, Jamieson DJ, Honein MA. Severe 2009 H1N1 influenza in pregnant and postpartum women in California. *N Engl J Med* 2010;362:27-35.

Rasmussen SA, Jamieson DJ, MacFarlane K, et al. Pandemic influenza and pregnant women: Summary of a meeting of experts. *Am J Public Health* 2009;99 S248-54.

Siston AM, Rasmussen SA, Honein MA, et al. Pandemic 2009 influenza A(H1N1) virus illness among pregnant women in the United States. *JAMA* 2010;303:1517-25.

Tanaka T, Nakajima K, Murashima A, Garcia-Bournissen F, Koren G, Ito S. Safety of neuraminidase inhibitors against novel influenza A (H1N1) in pregnant and breastfeeding women. *CMAJ* 2009;181:55-8.

More information from CDC for medical professionals on [influenza antiviral drugs](http://www.cdc.gov/flu/professionals/antivirals/index.htm) is available at <http://www.cdc.gov/flu/professionals/antivirals/index.htm>.

Information from CDC for medical professionals on [influenza vaccination](http://www.cdc.gov/flu/professionals/vaccination/) is available at <http://www.cdc.gov/flu/professionals/vaccination/>. All persons age 6 months and older, including pregnant and postpartum women, are recommended to receive annual influenza vaccination. Offering flu vaccine at any opportunity, for every patient, is essential. Note that pregnant women should receive inactivated vaccine (flu shot) but should NOT receive the live attenuated vaccine (nasal spray). Postpartum women, even if they are breastfeeding, can receive either type of vaccine.

A recent Health Advisory from the Missouri Department of Health and Senior Services (DHSS) providing guidance for clinicians on the use of [rapid influenza diagnostic tests \(RIDTs\)](http://www.dhss.mo.gov/BT_Response/HAdS/had122210.pdf) is available at http://www.dhss.mo.gov/BT_Response/HAdS/had122210.pdf.

Links to additional, comprehensive information for medical professionals on seasonal influenza (as well as pandemic and avian influenza) are found on DHSS' Seasonal Influenza website at <http://www.dhss.mo.gov/PandemicInfluenza/MedSeasonalFlu.html>. The department's main influenza website is located at <http://www.dhss.mo.gov/Influenza/>.

Medical epidemiology support is available for medical consultations regarding influenza clusters, outbreaks, and clinical testing. Please contact the DHSS Epidemic Intelligence Service (EIS) officer, Philip Lo, MD, at Philip.lo@dhss.mo.gov, or 573/526-1369 (days) or 800/392-0272 (nights, weekends, and holidays).