



Florida/Caribbean AIDS Education and Training Center

HIV CareLink

A Newsletter for HIV/AIDS Primary Care Providers

ABOUT US

The Florida/Caribbean AIDS Education and Training Center provides state-of-the-art HIV education, consultation, and resource materials to health care providers in Florida, Puerto Rico and the US Virgin Islands.

Major funding is provided by the US Public Health Service's Health Resources Services Administration (HRSA) DHHS-HAB Grant No. H4AHA00049 through the University of South Florida Center for HIV Education and Research, Michael Knox, PhD, Director.

EDITORS

Jeffrey Beal, MD, AAHIVS (239) 839-4645
aetcbear@embarqmail.com

Joanne J. Orrick, PharmD, AAHIVE (352) 273-7845
orricj@ufl.edu

PEDIATRIC EDITOR

Belinda Beauchamp, MD (787) 281-8501
bbeauchamp@rcm.upr.edu

MANAGING EDITOR

Kimberly Alfonso, MAcc (813) 974-4430
alfonso@fmhi.usf.edu

Volume 10 - Issue 7

April 29, 2009

Special Bulletin: Swine-origin Influenza A (H1N1) Virus (S-OIV) Infection

Jeffrey Beal, MD, AAHIVS

Clinical Director, Florida/Caribbean AIDS Education and Training Center
Medical Director, Bureau of HIV/AIDS of the Florida Department of Health
Associate Professor, University of South Florida
Medical Director, Ryan White Part C, Hendry/Glades County Health Departments

Information for this HIV CareLink has been compiled from the Centers for Disease Control and Prevention's, "Interim Guidance on Antiviral Recommendations for Patients with Confirmed or Suspected S-OIV Infection and Close Contacts," April 28, 2009 05:00 AM ET, and "Interim Guidance on Specimen Collection, Processing, and Testing for Patients with Suspected Swine-Origin Influenza A (H1N1) Virus Infection," April 29, 2009 2:00 AM EDT (www.cdc.gov).

Case Definitions for Infection with Swine-origin Influenza A (H1N1) Virus (S-OIV)

There are three types of cases:

- **Confirmed case:** a person with an acute febrile respiratory illness with laboratory confirmed S-OIV infection at CDC by real-time RT-PCR or viral culture
- **Probable case:** a person with an acute febrile respiratory illness who is positive for influenza A, but negative for H1 and H3 by influenza RT-PCR
- **Suspected case:** a person with acute febrile respiratory illness
 - with onset within 7 days of close contact with a confirmed case of S-OIV infection, **or**
 - with onset within 7 days of travel to a community where there are one or more confirmed cases of S-OIV infection, **or**
 - who resides in a community where there are one or more confirmed cases of S-OIV infection.

Infectious period: for a confirmed case of S-OIV, the infectious period is defined as 1 day prior to onset of illness to 7 days after onset and/or resolution of fever. Young infants and immunocompromised persons may continue to be infectious for longer periods.

Close contact is defined as: within about 6 feet of an ill person who is a confirmed or suspected case of swine influenza A (H1N1) virus infection during the case's infectious period.

Symptoms of S-OIV: similar to regular human flu and include fever, cough, sore throat, body aches, headache, chills, and

fatigue. Some have also reported diarrhea and vomiting associated with swine flu.

Swine Influenza Antiviral Medication Recommendations

Empiric antiviral treatment should be considered for confirmed, probable or suspected cases. Treatment of hospitalized patients and patients at higher risk for influenza complications should be prioritized. Antiviral treatment with zanamivir or oseltamivir should be initiated as soon as possible after the onset of symptoms (best benefit within 48 hrs of onset), although some studies of seasonal influenza treatment indicate benefit (reductions in mortality or duration of hospitalization) even if treatment started more than 48 hours after illness onset. Duration of treatment is five days. Antiviral doses recommended for treatment of S-OIV infection in adults or children 1 year of age or older are the same as those recommended for seasonal influenza. (See tables at <http://www.cdc.gov/swineflu/recommendations.htm>)

Antiviral Chemoprophylaxis of S-OIV

For antiviral chemoprophylaxis of S-OIV infection, either oseltamivir or zanamivir are recommended. Duration of antiviral chemoprophylaxis *post-exposure* is 10 days after the last known exposure to a confirmed case. For *pre-exposure* protection, chemoprophylaxis should be given during the potential exposure period and continued for 10 days after the last known exposure to an ill confirmed case. Antiviral chemoprophylaxis (pre-exposure or post-exposure) with either oseltamivir or zanamivir is *recommended* for the following individuals:

For more information,
please visit our website:
www.FCAETC.org

To request clinical consultation, please call the
National Clinicians' Consultation Hotline:
1-800-933-3413

Individuals, school children, and travelers to Mexico who are at high-risk for complications of influenza (e.g., persons with certain chronic medical conditions, persons \geq 65 y/o, children $<$ 5 y/o, and pregnant women) who had close contact (face-to-face) with a confirmed, probable, or suspected case.

Pre-exposure antiviral chemoprophylaxis with either oseltamivir or zanamivir can be considered for the following:

Health care workers or public health workers, non-high-risk persons who are travelers to Mexico, first responders, or border workers not using appropriate personal protective equipment during close contact with an ill confirmed, probable, or suspected case of S-OIV infection during the infectious period, or who are at high-risk for complications of influenza, or are working in an area of the health care facility that contains patients with confirmed S-OIV infection, or are caring for patients with any acute febrile respiratory illness.

Children Under 1 Year of Age

Such children are at high risk for complications from seasonal human influenza virus infections. The characteristics of human infections with S-OIV viruses are still being studied, and it is not known whether infants are at higher risk for complications from S-OIV compared to older children and adults. (See [IDSA guidelines for seasonal influenza.](#))

Pregnant Women

Oseltamivir and zanamivir are "Pregnancy Category C" and should be used only if potential benefit justifies the potential risk to the embryo or fetus. No adverse effects have been reported from use of oseltamivir or zanamivir during pregnancy or among infants born. Pregnancy should not be considered a contraindication. Because zanamivir is an inhaled medication and has less systemic absorption, some experts prefer zanamivir over oseltamivir.

Adverse Events and Contraindications

For further information about influenza antiviral medications, including contraindications and adverse effects, please see the following CDC publications:

- [Antiviral Agents for Seasonal Influenza: Side Effects and Adverse Reactions](#)
- [MMWR: Prevention and Control of Influenza: Recommendations of the Advisory Committee on Immunization Practices \(ACIP\), 2008](#)

Testing for S-OIV

Clinicians should consider testing suspected cases, especially those with severe illness, by obtaining an upper respiratory specimen to test for S-OIV.

Preferred Respiratory Specimens:

The following should be collected as soon as possible after illness onset: nasopharyngeal synthetic swab (e.g., polyester or Dacron[®])/aspirate or nasal wash/aspirate. If these specimens cannot be collected, a combined nasal swab with an oropharyngeal swab is acceptable. For patients intubated, an endotracheal aspirate should also be collected. Specimens should be placed into sterile viral transport media (VTM) and immediately placed on ice or cold packs or at 4°C (refrigerator) for transport to the laboratory. Recommended infection control guidance is available for persons collecting clinical specimens:

http://www.cdc.gov/swineflu/guidelines_infection_control.htm

<http://www.bd.com/ds/productCenter/220240.asp>

and for laboratory personnel:

http://www.cdc.gov/swineflu/guidelines_labworkers.htm

Recommended Tests

Real-time RT-PCR for influenza A, B, H1, H3 at a State Health Department Laboratory is recommended. Currently, swine-origin influenza A (H1N1) virus will test positive for influenza A and negative for H1 and H3 by real-time RT-PCR. If reactivity of real-time RT-PCR for influenza A is strong (e.g., Ct \leq 30), it is more suggestive of a novel influenza A virus. Confirmation as swine-origin influenza A (H1N1) virus is performed at CDC currently, but may be available in state public health laboratories soon.

Other influenza tests

- **Rapid influenza antigen tests:** These tests have unknown sensitivity and specificity to detect human infection with S-OIV. Some can differentiate influenza A from B. A negative rapid test could be a false negative and should not be assumed to be a final diagnostic test for S-OIV infection. A positive test for influenza A may meet criteria for a probable case.
- **Immunofluorescence (DFA or IFA):** Can distinguish between influenza A and B viruses. A patient with a positive test for influenza A by immunofluorescence may meet criteria for a probable case. However, it is not possible to differentiate from seasonal influenza A viruses. A negative test could be a false negative and should not be assumed a final diagnostic test for S-OIV.
- **Viral culture:** Isolation of S-OIV virus is diagnostic of infection, but may not yield timely results for clinical management. A negative viral culture does not exclude infection with S-OIV.

The complete collection of previous issues of HIV CareLink are available online.

To view past issues, please visit the archives at:

www.FCAETC.org/Newsletter