

# SWINE INFLUENZA 4/28/09

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This report was compiled from information obtained from the Centers for Disease Control (CDC), UpToDate and PEPID. It is intended for use by ISG paramedics and other personnel.

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Human cases of swine influenza A(H1N1) virus infection have been identified in the U.S. and Mexico. Cases have been identified in California, Kansas, New York City, Ohio and Texas. It is a novel influenza A virus that has not been previously identified in North America.

Symptoms include fever, cough, sore throat, body aches, headache, chills and fatigue. Some people have reported diarrhea and vomiting associated with swine flu. Like seasonal flu, swine flu in humans can vary in severity from mild to severe. Certain groups might be more likely to develop a severe illness from swine flu infection, such as persons with chronic medical conditions. Sometimes bacterial infections may occur at the same time as or after infection with influenza viruses and lead to pneumonia, ear infections, or sinus infection.

## *How Flu Spreads:*

The main way that influenza viruses is from person to person in respiratory droplets of coughs and sneezes and the droplets are propelled through the air and deposited on the mouth or nose of people nearby. Influenza viruses may also be spread when a person touches respiratory droplets on another person or an object and then touches their own mouth or nose (or someone else's mouth or nose) before washing their hands.

People with flu who are cared for at home should:

~ check with their health care provider about any special care they might need if they are pregnant or have a health condition such as diabetes, heart disease, asthma or emphysema.

- ~ check with their health care provider about whether they should take antiviral medications.
- ~stay home for 7 days after the start of illness and fever is gone.
- ~get plenty of rest.
- ~drink clear fluids(such as water, broth, sports drinks, electrolyte beverages for infants) to keep from being dehydrated.
- ~cover coughs and sneezes. Clean hands with soap and water or an alcohol-based **hand rub often and especially after using tissues and after coughing or sneezing into hands.**
- ~**avoid close contact with others—do not go to work or school while ill.**
- ~**close contact is within 6 feet.**
- ~**be watchful for emergency warning signs that might indicate you need to seek medical attention.**

### *Medications to Help Lessen Symptoms of the Flu*

Antiviral medications can sometimes help lessen flu symptoms, but require a prescription. Most people do not need these antiviral drugs to fully recover from the flu. However, persons at higher risk for severe flu complications, or those with severe flu illness who require hospitalization, might benefit from antiviral medications. Antiviral medications are available for persons 1 year of age and older. Ask your doctor whether you need antiviral medication.

Influenza infections can lead to or occur with bacterial infections. Therefore, some people will also need to take antibiotics. More severe or prolonged illness or illness that seems to get better, but then gets worse again may be an indication that a person has a bacterial infection. Check with your doctor if you have concerns.

**WARNING:** Do not give aspirin (acetylsalicylic acid) to children or teenagers who have the flu; this can cause a rare but serious illness called Reye's syndrome.

- ~check ingredient labels on over-the-counter cold and flu medications to see if they contain aspirin.
- ~teenagers with the flu can take medicines without aspirin, such as acetaminophen (Tylenol) and ibuprofen(Advil, Motrin, Nuprin) , to relieve symptoms.
- ~Children younger than 2 years should not be given over-the-counter medications without first speaking with their doctor.
- ~the safest care for flu symptoms in children younger than 2 years is using a cool-mist humidifier and a suction bulb to help clear away mucus.

~fevers and aches can be treated with acetaminophen, ibuprofen or NSADS. Examples- Tylenol, Motrin, Advil, Aleve.

~ over –the counter cold and flu medications used according to the package instructions may help lessen some symptoms such as cough and congestion. Importantly, they will not lessen how infectious a person is.

~check the ingredients on the package label to see if the medication already contains acetaminophen or ibuprofen before taking additional doses of these medications---don't double dose! Patients with kidney disease or stomach problems should check with their doctor before taking any NSADS.

~check with your doctor or pharmacist if you are taking other over-the-counter or prescription medications not related to the flu.

### *When to Seek Medical Care:*

Get medical care right away if the sick person at home:

~has difficulty breathing or chest pain

~has purple or blue discoloration of the lips

~is vomiting and unable to keep liquids down

~has signs of dehydration such as dizziness when standing, absence of urination, or in infants, a lack of tears when they cry.

~has seizures (for example, uncontrolled convulsions)

~is less responsive than normal or becomes confused.

### **Steps to Lessen the Spread of Flu in the Home:**

~keep the sick person in a room separate from the common areas of the house.

~remind the sick person to cover their coughs, and clean their hands with soap and water or an alcohol-based hand rub often, especially after coughing or sneezing.

~ask your doctor if household contacts of the sick person, particularly those contacts that may have chronic health conditions, should take antiviral medications such as Tamiflu or Relenza to prevent the flu.

~throw away tissues and other disposable items used by the sick person in the trash. Wash hands.

~keep surfaces (especially bedside tables, surfaces in the bathroom, and toys for children) clean by wiping them down with a household disinfectant).

~linens, eating utensils, and dishes belonging to those who are sick do not need to be cleaned separately, but importantly these items should not be shared without washing thoroughly first.

~wash linens and towels by using household laundry soap and tumble dry on a hot setting. Avoid “hugging” laundry prior to washing it to prevent contaminating yourself. Clean your hands after handling dirty laundry.

~eating utensils should be washed either in a dishwasher or by hand with water and soap.

## **Infection Control in the Office**

~use disinfectant wipes on desk tops, key-boards, telephones, door-knobs, etc.

## **INFECTION CONTROL IN A HEALTHCARE SETTING**

Persons with swine influenza virus infection should be considered potentially contagious for up to 7 days following illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered potentially contagious until symptoms have resolved. Children, especially younger children, might be potentially contagious for longer periods.

Non-hospitalized ill persons who are a confirmed or suspected case of swine influenza A(H1N1) virus are recommended to stay at home (voluntary isolation) for at least the first 7 days after illness onset except to seek medical care.

Case Definitions:

~confirmed case= confirmed swine influenza A(H1N1) virus infection at CDC by one or more of the following tests:

- Real-time RT-PCR
- Viral culture
- Four-fold rise in virus specific neutralizing antibodies.

~suspected case = a person with acute febrile respiratory illness with onset within 7 days of close contact with a person who is a confirmed case of swine influenza.

~acute respiratory illness = a recent onset of at least two of the following- runny nose or congestion, sore throat, cough (with or without fever )

Clinicians should consider swine influenza in the differential diagnosis of patients with febrile respiratory disease and who 1)live in San Diego, California, or Guadalupe County, Texas, or traveled to those counties or 2) Who recently traveled to Mexico or were in contact with persons who did in the 7 days preceding their illness onset.

## **Infection Control of Ill Person in a Healthcare Setting:**

Patients with suspected or confirmed case-status should be placed in a single-patient room with the door kept closed.

The ill person should wear a surgical mask when outside of the patient room, and should be encouraged to wash hands frequently and follow respiratory hygiene practices.

Standard droplet and contact precautions should be used for all patient care activities, and maintained for 7 days after illness onset or until symptoms have resolved. Maintain adherence to hand hygiene by washing with soap and water or using hand sanitizer immediately after removing gloves and other equipment and after any contact with respiratory secretions.

Personnel providing care to or collecting clinical specimens from suspected or confirmed cases should wear disposable non-sterile gloves, gowns, and eye protection (i.e., goggles) to prevent conjunctival exposure.

Personnel providing direct patient care for suspected or confirmed swine influenza A cases should wear a fit-tested disposable N95 respirator when entering the patient room .

[www.osha.gov/SLTC/etools/respiratory](http://www.osha.gov/SLTC/etools/respiratory)..(<http://www.cdc.gov/niosh/npptl/topics/respirators/factsheets/respfact.html>)

## **Facemask and Respirator Use in Certain Community Settings Where Swine Influenza has been detected**

1. Whenever possible, rather than relying on the use of facemasks or respirators, close contact (less than 6 feet) with people who might be ill and being in crowded settings should be avoided.
2. Facemasks should be considered for use by individuals who enter crowded settings, both to protect their nose and mouth from other people's coughs and to reduce the wearers' likelihood of coughing on others; the time spent in crowded settings should be as short as possible.

3. Respirators should be considered for use by individuals for whom close contact with an infectious person is unavoidable. This can include selected individuals who must care for a sick person (e.g., family member with a respiratory infection) at home.
4. “facemasks” refers to disposable masks cleared by the FDA for use as medical devices.
5. “respirator” refers to an N95 or higher filtering facepiece respirator certified by NIOSH.

## Rapid Diagnostic Testing for Influenza

Rapid diagnostic tests for influenza can help in the diagnosis and management of patients who present with signs and symptoms compatible with influenza. They should be done when the results will affect clinical decision making.

Sensitivities of rapid diagnostic tests are 50-70%.

Rapid tests which may be used in any office setting with a certificate of waiver (CLIA-waived test) include: BimaxNOW Influenza A&B (Inverness) and QuickVue Influenza A&B(Quidel)

## Antiviral drugs for the prevention of influenza in adults

Influenza is a communicable but preventable viral illness. Annual immunization for targeted populations is the most important preventive measure. But, it will require several months to develop a vaccine for the current swine flu variety. However, antiviral drugs are available and play an important adjunctive role for patients who have not been immunized or who may not develop immunity from the vaccine.

The class of antiviral drugs which is effective in the current swine flu is the neuraminidase inhibitors, oseltamivir (Tamiflu) and zanamivir(Relenza).

Antiviral prophylaxis should be considered in specified populations at high risk of complications of influenza in identified situations of exposure.

Family members or healthcare providers who are unvaccinated and are likely to have ongoing close exposure to persons at high risk or unvaccinated persons or infants less than 6 months.

Persons at high risk and their family members and close contacts, and health-care workers, when circulating strains of influenza in the community are not matched with vaccine strains.

Unvaccinated staff and persons during response to an outbreak in a closed institutional setting with residents at high risk (eg, extended-care facilities).

The usual duration of antiviral prophylaxis varies with the indication:

~during community outbreaks, prophylaxis may be given throughout the period of peak influenza activity (usually 6 to 8 weeks).

## **OSELTAMIVIR (TAMIFLU)**

Adult dose: 75mg po bid for 5 or more days

Most effective when used within 24-48 hours of onset of symptoms

Adverse drug reactions:

~ 1-10%- insomnia, vertigo, nausea, abdominal pain, conjunctivitis, ear disorder, epistaxis

Cost: 75mg – 10 caps- \$40-60

## **ZANAMIVIR (RELENZA)**

Adult dose: 10mg inhaled bid for 5 days

Start within 2 days of symptoms.

Adverse drug reactions:

~>1%- headache, vertigo, nausea, diarrhea, cough,

Cost: 20 units per rotadisk= \$40-60

## **PREVENTING THE FLU: GOOD HEALTH HABITS CAN HELP STOP GERMS**

1. Avoid close contact
2. Stay home when you are sick
3. Cover your mouth and nose
4. Clean your hands
5. Avoid touching your eyes, nose or mouth

6. Practice other good health habits—get plenty of sleep, be physically active, manage your stress, drink plenty of fluids, and eat nutritional food.