Wisconsin Guidance for Infection Control of Patients with Swine Influenza A Infections in Health Care Settings - April 26, 2009

The Wisconsin Division of Public Health has developed the following interim infection control guidelines for managing cases of swine influenza A (H1N1) infections based on current information from CDC and will update them as more is learned about these cases. Although the cases in the US to date have been mild, health care facilities should expect to receive both inpatients and outpatients with potential swine influenza A H1N1 infections and be prepared to manage them with appropriate infection control measures to prevent transmission during health care delivery.

Definitions

1. A patient with a confirmed case of swine influenza A (H1N1) virus infection is defined as a person with an acute respiratory illness with laboratory confirmed swine influenza A (H1N1) virus infection at CDC by one or more of the following tests:
    1. real-time RT-PCR
    2. viral culture
    3. four-fold rise in swine influenza A (H1N1) virus specific neutralizing antibodies
2. A patient with a probable case of swine influenza A (H1N1) virus infection is defined as a person with an acute respiratory illness with an influenza test that is positive for influenza A, but H1 and H3 negative.
3. A patient with a suspected case of swine influenza A (H1N1) virus infection is defined as:
    1. A person with an acute respiratory illness who was a close contact to a confirmed case of swine influenza A (H1N1) virus infection while the case was ill **OR**
    2. A person with an acute respiratory illness with a recent history of contact with an animal with confirmed or suspected swine influenza A (H1N1) virus infection **OR**
    3. A person with an acute respiratory illness who has traveled to an area where there are confirmed cases of swine influenza A (H1N1) within 7 days of suspect case's illness onset.
4. Close contact is defined as being within 6 feet of an ill person who is a confirmed or suspected case of swine influenza A (H1N1) virus infection
5. Acute respiratory illness is recent onset of at least two of the following: rhinorrhea or nasal congestion, sore throat, cough (with or without fever or feverishness)

Infectious period

Persons with swine influenza A virus infections should be considered infectious from 1 day before illness onset to at least 7 days after illness onset. Persons who continue to be ill longer than 7 days after illness onset should be considered infectious until symptoms have resolved. Children, especially younger children, may be infectious for longer periods.

Non-hospitalized ill persons who have confirmed, probable, or suspected cases of swine influenza A (H1N1) virus infection are recommended to stay home under voluntary isolation for at least the first 7 days after illness onset except to seek medical care. They should consult their local health departments before returning to work, school, or day care.

Infectious period for confirmed cases = 1 day before onset to 7 days after onset of illness
Day before onset = Day -1
Onset day = Day 0
Days after onset = Days 1-7

Notification to Public Health Agencies

The local health department should be notified when persons with suspected, probable, or confirmed cases are seen in the outpatient setting, Emergency Department, or admitted to the hospital. If unable to contact the local health department, call the Wisconsin Division of Public Health at 608-267-9003 during normal business hours (7:45 a.m. to 4:30 p.m.) After hours use the emergency number of (608) 258-0099. This number is for facility staff only and should not be shared with patients or the general public.

Inpatient Settings

All confirmed, probable, and suspected cases should be managed with standard, contact, and airborne precautions. Additionally, eye protection should be worn with all patient care activities. Precautions should be observed until 7 days after illness onset or until symptoms resolve, whichever is longer.

Standard precautions

No modifications of standard precautions are necessary when caring for patients with confirmed or suspected swine influenza A infections. Practice routine infectious waste management, environmental cleaning/disinfection, and handling of laundry and linens. Alcohol-based hand sanitizers may be used to decontaminate hands during care of patients with swine influenza A infections. Used dietary items such as cups, utensils, and dishes may be routinely sanitized and do not need to be replaced with disposable items. Environmental cleaning/disinfection may be done using any of the current EPA-registered, hospital approved disinfectants.

Hand hygiene and cough etiquette should be emphasized and enforced among healthcare workers, patients and their family members, and all visitors to healthcare facilities. Person with signs and symptoms of acute respiratory illnesses should be asked to wear surgical masks upon entry to facilities and taken to private rooms or areas as soon as possible after arrival.

More details about standard precautions are at
http://www.cdc.gov/ncidod/dhqp/pdf/guidelines/Isolation2007.pdf

Hand hygiene guidelines are at
http://www.cdc.gov/mmwr/PDF/rr/rr5116.pdf

Airborne precautions

Currently little is known about transmission of swine influenza A virus in healthcare settings, thus airborne precautions have been included in the interim infection control guidelines but may be modified when more specific modes of transmission are identified. Meanwhile healthcare facilities should follow the October 2006 “Interim Guidance on Planning for the Use of Surgical Masks and Respirators in Healthcare Settings during an Influenza Pandemic” at **http://www.pandemicflu.gov/plan/healthcare/maskguidancehc.html.**

Patients with confirmed, probable, or suspect infections should be placed in airborne infection isolation rooms (AII) when available. If AII rooms are not available patients should be placed in private rooms with doors kept closed. It is preferable to exhaust air directly to the outside but return air may be re-circulated if filtered through a HEPA filter. Portable HEPA filtration units may also be used when return air HEPA filtration is not available.

Procedure rooms with negative pressure air handling should be used for aerosol generating procedures such as suctioning, bronchoscopy, or intubation.

Healthcare workers should wear NIOSH-certified N-95 filtering facepieces or powered air purifying respirators (PAPRs) upon entry to isolation rooms and during all patient care activities, including during all aerosol generating procedures such as collection of clinical specimens, intubation, nebulizer treatment, bronchoscopy, and resuscitation involving emergency intubation or cardiac pulmonary resuscitation.

Patients should not be allowed to leave the isolation room unless medically necessary. If they must leave the room, they should wear a surgical mask while outside the room.

Contact precautions

Place patients in private rooms and allow them to leave the room only when medically necessary.

All healthcare personnel should wear gloves and gowns each time they enter the room. Remove gloves and gowns just prior to leaving the isolation room and decontaminate hands immediately after removing gloves and gowns.

All medical equipment, patient care items, and other items in the isolation room must be either disposed of or cleaned and disinfected before removing from the room.

Eye protection

Goggles or face shields should be worn during all patient care activities and collection of clinical specimens to prevent conjuctival exposure.

Visitors

Visitors of patients with confirmed, probable, or suspected swine influenza A infection should be limited to one or two designated family members or contacts. Visitors should be instructed on good hand hygiene and should wear gowns, gloves, eye protection, and either surgical masks or N-95 filtering facepieces when entering isolation rooms (visitors do not need to be fit tested).

Persons with symptoms of communicable diseases should avoid visits to healthcare facilities when possible.

Outpatient Clinics, Emergency Departments, Urgent Care Centers

Respiratory hygiene should be observed by all patients, visitors and healthcare workers. Cover the nose and mouth when sneezing or coughing with tissue, then wash hands. Patients with acute respiratory illness should be asked to wear a surgical mask if possible and should be placed in an examination room or private area as soon as possible after arrival.

Patients with confirmed, probable, or suspected swine influenza A infection should be asked to wear a surgical mask upon entry to the facility and for the duration of the visit when possible. They should be placed in an examination room immediately after arrival to the facility. Healthcare workers should wear gowns, gloves, eye protection, and a NIOSH-certified fit-tested N-95 filtering facepiece or PAPR while in the examination room and during all patient care activities and specimen collection.

Transport Personnel

Emergency medical technicians and other pre-hospital transport personnel should practice standard precautions on all patients being transported and droplet precautions (use of a surgical mask when within 3 to 6 feet of the patient) on those with signs and symptoms of acute respiratory illness. Patients should also be asked to wear a surgical mask if able to tolerate.

Laboratory Workers

This guidance may be found on the CDC website at http://www.cdc.gov/swineflu/guidelines_labworkers.htm and is for laboratory workers who may be processing or performing diagnostic testing on clinical specimens from patients with confirmed, probable, or suspected swine influenza A (H1N1) virus infection, or performing viral isolation.

Diagnostic laboratory work on clinical samples from patients who have confirmed, probable, or suspected cases of swine influenza A (H1N1) virus infection should be conducted in a BSL2 laboratory. All sample manipulations should be done inside a biosafety cabinet (BSC).

Viral isolation on clinical specimens from patients who have confirmed, probable, or suspected cases of swine influenza A (H1N1) virus infection should be performed in a BSL2 laboratory with BSL3 practices (enhanced BSL2 conditions).

Additional precautions include:

- Recommended Personal Protective Equipment (based on site specific risk assessment)
- Respiratory protection – fit-tested N95 respirator or higher level of protection.
- Shoe covers
- Closed-front gown
- Double gloves
- Eye protection (goggles or face shields)

Waste

- All waste disposal procedures should be followed as outlined in your facility standard laboratory operating procedures.

Appropriate disinfectants

- 70% Ethanol
- 5% Lysol
- 10% Bleach

All personnel should self monitor for fever and any signs or symptoms. Signs and symptoms of swine influenza infection include cough, sore throat, vomiting, diarrhea, headache, runny nose, and muscle aches. Any illness should be reported to your supervisor immediately.

For personnel who had unprotected exposure or a known breach in personal protective equipment to clinical material or live virus from a confirmed, probable, or suspect case of swine influenza A (H1N1), antiviral chemoprophylaxis with zanamivir or oseltamivir for 7 days after exposure can be considered. See guidance on post-exposure antiviral prophylaxis below.

Biosafety in Microbiological and Biomedical Laboratories (BMBL) 5th Edition Section IV Laboratory Biosafety Level Criteria

Exposed Health Care Workers (HCW)

HCW exposure to suspect or known cases of swine influenza A is defined as any of the following and may warrant use of post exposure chemoprophylaxis. See guidance on post-exposure antiviral prophylaxis below.

- entry into an isolation room without HCW use of a NIOSH-certified fit tested N-95 filtering facepiece or PAPR.
- face to face contact (within 6 feet) without HCW use of a NIOSH-certified fit tested N-95 filtering facepiece or PAPR, or surgical mask on patient.
- splashes or sprays of respiratory/oral secretions onto HCW eyes, nose, or mouth
- direct contact with patient without use of gloves or gown

Post-exposure antiviral prophylaxis

For post-exposure antiviral prophylaxis of swine influenza A (H1N1) virus infection, either oseltamivir or zanamivir are recommended. Duration of antiviral prophylaxis is 7 days after the last known exposure to an ill confirmed case of
swine influenza A (H1N1) virus infection. Antiviral dosing and schedules recommended for prophylaxis of swine influenza A (H1N1) virus infection are the same as those recommended for seasonal influenza: **http://www.cdc.gov/flu/professionals/antivirals/dosagetable.htm#table**. Antiviral post-exposure prophylaxis is recommended for laboratory workers and healthcare or public health workers who had unprotected close contact with an ill patient who has a confirmed, probable, or suspected case of swine influenza A (H1N1) virus infection during the patient's infectious period.