

Infection prevention and control in health care in providing care for confirmed or suspected A(H1N1) swine influenza patients

Interim guidance

29 April 2009

Background

The current situation regarding the outbreaks of A(H1N1) swine influenza is evolving rapidly, and countries from different regions of the globe have been affected.

Based on epidemiological data, human-to-human transmission has been demonstrated along with the ability of the virus to cause community-level outbreaks which together suggest the possibility of sustained human-to-human transmission. Health-care facilities now face the challenge of providing care for patients infected with A(H1N1) swine influenza. It is critical that health-care workers use appropriate infection control precautions when caring for patients with influenza-like symptoms, particularly in areas affected by outbreaks of A(H1N1) swine influenza, in order to minimize the possibility of transmission among themselves, to other health-care workers, patients and visitors.

As at 29 April, human-to-human transmission of A(H1N1) swine influenza virus appears to be mainly through droplets. Therefore, the infection control precautions for patients with suspected or confirmed A(H1N1) swine influenza and those with influenza-like symptoms should prioritize the control of the spread of respiratory droplets. The precautions for influenza virus with sustained human-to-human transmission (e.g. pandemic-prone influenza) are described in detail in the document "Infection prevention and control of epidemic- and pandemic-prone acute respiratory diseases in health care WHO Interim Guidelines"¹.

This guidance may change as new information becomes available.

Fundamentals of infection prevention strategies

1. Administrative controls are key components, including: implementation of Standard and Droplet Precautions; avoid crowding, promote distance between patients (≥ 1 m); patient triage for early detection, patient placement and reporting; organization of services; policies on rational use of available supplies; policies on patient procedures; strengthening of infection control infrastructure.
2. Environmental/engineering controls, such as basic health-care facility infrastructure², adequate ventilation, proper patient placement, and adequate environmental cleaning can help reduce the spread of some respiratory pathogens during health care.
3. Rational use of available personal protective equipment (PPE) and appropriate hand hygiene.

CRITICAL MEASURES:

- Avoid crowding patients together, promote distance between patients
- Protect mucosa of mouth and nose
- Perform hand hygiene

¹ Available at http://www.who.int/csr/resources/publications/WHO_CD_EPR_2007_6/en/index.html

² For more details, see *Essential environmental health standards in health care*. Geneva, World Health Organization, 2008. Available at http://whqlibdoc.who.int/publications/2008/9789241547239_eng.pdf

Summary Precautions

For staff providing care to patients with suspected or confirmed A(H1N1) swine influenza infection and for patients with influenza-like symptoms.

Standard³ and Droplet Precautions⁴ should be strengthened when working in direct contact with suspected or confirmed A(H1N1) swine influenza infected patients. Key elements:

- use a medical or surgical mask
- emphasize hand hygiene and provide hand hygiene facilities and supplies.

As per Standard Precautions², if there is a risk of splashes onto face:

- use face protection! Use either (1) a medical or surgical mask and eye-visor or goggles, or (2) a face shield and,
- use a gown and clean gloves.
- DO NOT FORGET HAND HYGIENE AFTER PPE REMOVAL!

Aerosol generating procedures (e.g. aspiration of respiratory tract, intubation, resuscitation, bronchoscopy, autopsy) **are associated with increased risk of infection transmission, and the infection control precautions should include using:**

- particulate respirator (e.g. EU FFP2, US NIOSH-certified N95);
- eye protection (i.e. goggles);
- a clean, non-sterile, long-sleeved gown;
- gloves (some of these procedures require sterile gloves).

KEY ELEMENTS FOR HEALTH CARE

1. Basic infection control recommendations for all health-care facilities

Standard and Droplet Precautions when caring for a patient with an acute, febrile, respiratory illness.

2. Respiratory hygiene/cough etiquette

Health-care workers, patients and family members should cover mouth and nose with a tissue when coughing and perform hand hygiene afterwards.

3. Infection control precautions for suspected and confirmed A(H1N1) swine influenza infection

Place patient in adequately-ventilated room. If single rooms are not available, cohort patients in wards keeping at least 1 metre distance between beds. Standard, and Droplet Precautions for all persons entering the isolation room.

4. Triage, early recognition and reporting of A(H1N1) swine influenza infection.

Consider A(H1N1) swine influenza infection in patients with acute, febrile, respiratory illness who have been in an affected region within the one week prior to symptom onset and who have had exposure to an A(H1N1) swine influenza infected patient or animal.

³ **Standard Precautions:** basic precautions designed to minimize direct unprotected exposure to potentially infected blood, body fluids or secretions (www.who.int/csr/resources/publications/standardprecautions/en/index.html)

⁴ **Droplet Precautions:** health-care workers to wear medical mask gowns and clean gloves when providing direct care. Placement of patients with same diagnosis in designated areas may facilitate the application of infection control precautions

- 5. Additional measures to reduce nosocomial A(H1N1) swine influenza virus transmission**
Limit numbers of health-care workers/family members/visitors exposed to the A(H1N1) swine influenza patient.
- 6. Specimen collection/transport/handling within health-care facilities**
Use Standard, and Droplet Precautions for specimen collection. Use Standard Precautions for specimen transport to the laboratory. Health-care facility laboratories should follow good biosafety practices.
- 7. Family member/visitor recommendations**
Family members/visitors should be limited to those essential for patient support and should use the same infection control precautions as health-care workers.
- 8. Patient transport within health-care facilities**
Suspect or confirmed A(H1N1) swine influenza patients should wear a medical/surgical mask.
- 9. Pre-hospital care**
Infection control precautions are similar to those practiced during hospital care for all involved in the care of suspected A(H1N1) swine influenza patients. (e.g. transportation to hospital).
- 10. Occupational health**
Monitor health of health-care workers exposed to A(H1N1) swine influenza patients. Antiviral prophylaxis should follow local policy. Health-care workers with symptoms should stay at home.
- 11. Waste disposal**
Treat any waste that could be contaminated with A(H1N1) swine influenza virus as infectious clinical waste, e.g. used masks.
- 12. Dishes/eating utensils**
Wash using routine procedures with water and detergent. Use non-sterile rubber gloves.
- 13. Linen and laundry**
Wash with routine procedures, water and detergent; avoid shaking linen/laundry during handling before washing. Use non-sterile rubber gloves.
- 14. Environmental cleaning and disinfection**
Clean soiled and/or frequently touched surfaces regularly with a disinfectant. e.g. door handles.
- 15. Patient care equipment**
Dedicate separate equipment to A(H1N1) swine influenza patients. If not possible, clean and disinfect before reuse in another patient.
- 16. Duration of A(H1N1) swine influenza infection control precautions**
For the duration of symptoms.
- 17. Patient discharge**
If the A(H1N1) swine influenza patient is discharged while still infectious (i.e. discharged within the period of infection control precautions: see 16 above), instruct family members on appropriate infection control precautions in the home.
- 18. Prioritization of PPE when supplies are limited**
Medical/surgical mask for the care of all A(H1N1) swine influenza patients and hand hygiene are priorities.

19. Health-care facility engineering controls

If available, A(H1N1) swine influenza patients must be placed in adequately-ventilated single rooms. Aerosol-generating procedures should be performed in well ventilated spaces.

20. Mortuary care

Mortuary staff and the burial team should apply Standard Precautions i.e. perform proper hand hygiene and use appropriate PPE (use of gown, gloves, facial protection if there is a risk of splashes from patient's body fluids/secretions onto staff member's body or face).

21. Health-care facility managerial activities

Education, training, and risk communication. Adequate staffing and supplies.

22. Health care in the community

Limit contact with the ill person as much as possible. If close contact is unavoidable, use the best available protection against respiratory droplets and perform hand hygiene.