

Full Barrier Infection Control Precautions During an Influenza Pandemic



Minnesota Department of Health
January 2007

The Minnesota Department of Health recommends airborne and contact precautions, plus eye protection, in addition to standard precautions (“full barrier precautions”) for all known and suspect avian and pandemic influenza patients. Personal protective equipment (PPE) for full barrier precautions,* includes:

- respirator at least as protective as a NIOSH-certified N95 respirator;
- gown;
- gloves; and
- eye protection (faceshield/goggles)

In making this recommendation, MDH acknowledges that supplies of PPE necessary to implement full barrier precautions, particularly respirators, may be limited during a pandemic. MDH will provide guidance on prioritization and possible reuse of PPE when supplies are limited.

*Detailed information about standard, droplet, contact, and airborne precautions and full barrier PPE posters are available at:

<http://www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/>

§Respirators should be used in the context of a complete respiratory protection program as required by OSHA. This includes training, fit testing, and fit-checking to ensure appropriate respirator selection and use. To be effective, respirators must seal properly to the wearer’s face. Detailed information on respiratory protection programs are available at: <http://www.health.state.mn.us/divs/idepc/dtopics/infectioncontrol/rpp/>

Rationale

- There is evidence that influenza may be transmitted by small particle aerosols and that surgical masks do not offer adequate protection against the inhalation of these small particles.
- To minimize exposure of health care workers to avian and pandemic influenza virus, MDH recommends that health care workers use full barrier precautions, including respirators (if available), when working with known or suspect avian or pandemic influenza patients.
- Providing appropriate protection to health care workers during a pandemic is critical because:
 - vaccine for the pandemic influenza strain is unlikely to be available in the initial stages of a pandemic;
 - antiviral supplies are likely to be limited; and
 - pandemic influenza may cause disproportionate morbidity and mortality in younger, healthier people, such as health care workers, as it did in the 1918 pandemic.



Checklist for full barrier personal protective equipment (PPE)

- Clean, nonsterile, fluid-resistant, long sleeved gowns.
- Clean, nonsterile, gloves, which should cover the cuffs of the gown.
- Face shield or goggles.
- Fit tested, seal checked disposable particulate respirator that is at least as protective as a U.S. NIOSH-certified N95 respirator.

Placement and removal

- PPE should be put on before entering the avian or pandemic influenza patient room or area.
- Careful placement of PPE before patient contact will help avoid the need to make PPE adjustments and risk self-contamination and self-inoculation during use.
- Careful removal of PPE is also critical to avoid self-contamination and self-inoculation.
- When PPE supplies (including respirators) are limited, they should be prioritized and pursued as resources permit, particularly for aerosol-generating procedures.

Key health care facility infection control recommendations for avian (AI) and pandemic (PI) influenza

Key elements			
1. Basic infection control recommendations for all health care facilities	Standard precautions for all patients, plus droplet precautions for patients with acute febrile respiratory illness	11. Dishes/eating utensils	Use standard precautions.
2. Respiratory hygiene/cough etiquette	Patients/family members cover cough with mask or tissue and perform hand hygiene. Exclude symptomatic visitors.	12. Linen and laundry	Use standard precautions; avoid shaking of linen/laundry.
3. Early recognition and reporting of AI or PI cases	Consider AI or PI in patients with acute febrile respiratory illness who have been in AI or PI affected regions within the prior 2 weeks <u>and</u> who had bird exposure or exposure to human AI or PI cases while in the region.	13. Environmental cleaning and disinfection	Use routine hospital disinfectants, clean and disinfect frequently touched surfaces in AI or PI patient room twice daily, other surfaces once a day.
4. Isolation precautions for suspected and confirmed AI or PI cases	Full barrier precautions (standard, droplet contact, and airborne) and patient placement in negative pressure room.	14. Patient care equipment	Dedicate to AI or PI patient. If not possible, clean and disinfect before reuse.
5. Additional measures to reduce the possibility of nosocomial AI or PI transmission	Limit numbers of health care workers/family members/visitors exposed to AI or PI patient.	15. Current WHO recommendations for duration of AI or PI infection control precautions	Adults \geq 12 years: 7 days after resolution of fever. Children < 12 years: 21 days after symptom onset.
6. Specimen collection/transport within health care facilities	Full barrier precautions for health care workers collecting specimens, careful transport of specimens to laboratory.	16. Patient discharge	If patient still infectious, instruct family members on home infection control precautions.
7. Family member/visitor recommendations	Family members/visitors should be limited to those essential for patient support and should use full barrier precautions.	17. Occupational health recommendations	Monitor health of exposed health care workers, use antiviral prophylaxis if available. Provide seasonal vaccine.
8. Patient transport	AI or PI patient should wear surgical mask. Health care workers doing transport should wear gown and gloves.	18. Health care facility administrative controls	Health care worker AI or PI education, training, and risk communication. Adequate staffing and PPE.
9. Pre-hospital care	Standard and droplet precautions for all patients with acute febrile respiratory illness, full barrier precautions for suspected AI or PI patients.	19. Prioritization of PPE when supplies are limited	Hand hygiene and facial protection of health care workers (eyes, nose, and mouth) are priorities if PPE is limited.
10. Waste disposal	Treat waste possibly contaminated with AI or PI virus as clinical waste.	20. Health care facility engineering controls	Spatial separation, barriers between patients. Ventilation, negative pressure.