

Novel H1N1: INFECTION CONTROL of PHYSICIAN PRACTICES

Why is it important to practice infection control in my practice setting?

Physician practices and other healthcare settings are where patients with novel H1N1 virus are most likely to be and where the virus can be most easily spread. This was illustrated by statistics in one of the CDC's first *Morbidity and Mortality Reports* (6/19/2009 MMWR), which referenced the first health care workers (HCW) with confirmed or probable novel H1N1 influenza and complete case histories. Half of them had contracted their infection in a health care setting, and half of them had contracted theirs from patients.

As a first step in protecting my patients from contracting the novel H1N1 virus in my practice setting, should I make sure that everyone on my staff, including myself, is vaccinated with both the seasonal influenza and the novel H1N1 influenza?

Yes. The above example also illustrates the importance of vaccinating HCWs and their families – as well as patients who are most likely to suffer complications from influenza and need to visit a health care setting for care.

In August the NYSDOH issued an emergency regulation mandating that all healthcare workers be vaccinated against novel H1N1 influenza. Exemptions can be granted to workers who can document that they have medical contraindication for the vaccine recognized by the ACIP, no patient contact and only incidental contact with direct-care staff members.

A NYS-licensed physician or nurse practitioner would have to certify that the vaccine would be detrimental to the HCW's health. The NYSDOH lists "Nationally Recognized Guidance for Influenza Vaccination Contraindications and Precautions" on its website at http://www.health.state.ny.us/diseases/communicable/influenza/seasonal/providers/guidance_for_influenza_vaccination.htm.

What else can I do with my staff?

- Educate staff in the hygiene basics of how to avoid spreading infectious agents (cover cough, cough into fabric or sleeve, dispose of tissues, wash hands frequently, etc.) at home as well as in the workplace. For both staff and patients, prominently post the education posters inserted in this and September *News of New York* issues.
- Train staff and cleaning personnel in proper office-maintenance hygiene (frequent and regular use of disinfectants on surfaces, frequent disposal of waste and replacement of disposable waste liners). Instruct staff to disinfect exam rooms and disinfect or replace equipment after each patient exit.

- Have all staff involved in direct patient care wear personal protective equipment (PPE) – disposable gloves, gowns, face shields/goggles and disposable surgical N-95 or higher air-purifying particulate respirators – when within six feet of patients with confirmed or suspected influenza. Complete exit paperwork before leaving exam room.

Note that HCWs need to be trained in the one-time use and disposal of surgical N-95 respirators and that they must be fit tested.

- Depending on the severity of illness in your area, check with state or county health department recommendations on the use of preventive antivirals for staff involved in direct patient care. The CDC and NYSDOH further recommend that high-risk HCWs not have direct patient contact with probable influenza cases.
- Monitor HCWs daily for respiratory symptoms/distress and other symptoms of influenza; and require them to stay at home for 7 days from symptom onset or until symptoms are resolved, whichever is *longer*. Upon return, make sure they continue to practice good respiratory etiquette and hand hygiene and avoid close contact with people known to be at increased risk of influenza-related complications. Shedding of influenza virus has been detected in some cases for 10 days or more after cessation of fever.

More detailed recommendations can be found in the CDC's *Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Novel Influenza A (H1N1) Virus Infection in a Healthcare Setting* at http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm, in the CDC's *Respiratory Hygiene/Cough Etiquette in Healthcare Settings* at <http://www.cdc.gov/flu/professionals/infectioncontrol/resphgiene.htm>, and in the American Academy of Family Physicians' *Checklist to Prepare Doctors' Offices for Pandemic Influenza* at http://www.aafp.org/online/etc/medialib/aafp_org/documents/clinical/bt/fpfluchecklist.Pa.r.0001.File.tmp/PanFluChecklist.pdf.

What should be done to disinfect my practice?

Environmental infection control should focus on regular cleaning for most surfaces and only target use of disinfection for surfaces touched frequently by hands. Routine application of disinfectants to housekeeping surfaces (floors, bookcases, tops of filing cabinets, etc.) is unnecessary. Use sanitizer wipes or cloths moistened with disinfectant to wipe electronic items (phones, computers, remote controls, etc.) that are touched often. Avoid excessive use of disinfectant or sanitizer on electronic equipment.

Clean bathroom surfaces on a regular basis. Air sanitizer products have not been shown to disinfect airborne influenza virus or reduce disease transmission and are not recommended.

Good cleaning with soap or detergent in water will remove most microorganisms, as well as soil and organic matter that would otherwise reduce the effectiveness of subsequent disinfection. Where disinfectants are used, products should be registered with the US Environmental Protection Agency and the New York State Department of Environmental Conservation (DEC) and labeled as effective against influenza virus on clean, hard non-porous surfaces. Follow label instructions carefully when using disinfectants and cleaners.

If registered disinfectants are not available, a chlorine bleach solution may be used - add about 1 tablespoon of bleach to a quart (4 cups) of water (smaller batches can be made from one teaspoon of bleach in a pint (2 cups) of water). Dispose of the used bleach solution when it becomes dirty or at least daily, and mix a fresh solution when repeating the cleaning process. Make up bleach solutions in small batches to avoid discarding excess bleach.

Many surface disinfectants require the treated surface to remain wet for several minutes to be effective. Take note of any hazard advisories and indications for using personal protective items (such as household gloves). Do not mix disinfectants and cleaners unless the labels indicate it is safe to do so. Combining certain products (such as chlorine bleach and ammonia cleaners) can result in serious injury or death.

The NYSDOH website has more detailed information on how to disinfect surfaces and offices, including this information in Spanish, at http://www.health.state.ny.us/diseases/communicable/influenza/h1n1/cleaning_and_disinfectants.htm.

A 38-page list of EPA and NYSDEC registered disinfectant products that are effective against influenza A are obtainable online at http://www.health.state.ny.us/diseases/communicable/influenza/h1n1/docs/disinfectant_products_by_product_name.pdf.

Before patients enter, is there anything I can do to my office to help prevent the spread of the novel H1N1 virus?

Yes. In addition to making sure practice setting is properly cleaned and disinfected, design an office management plan that reduces exposure of infected contagious patients and their germs with other patients and with staff who do not need to have direct contact with infected patients. Measures to accomplish this goal include the following;

- Remove toys, magazines and other shared items from waiting areas and discontinue the use of shared pens, clipboards and phones.
- Place alcohol-based hand rubs and single-use tissues and towels in all patient waiting and care areas and restrooms, as well as no-touch waste containers with disposable liners.

- Install physical barriers such as clear sneeze guards in reception or intake areas. If space permits, design a patient flow system that enables patients with probable novel H1N1 infection to use a separate entrance from other patients, as well as a separate waiting area, hallways, exam rooms and restrooms.
- Set up a telephone triage system to determine if the patient is likely to be infected before the patient arrives at the office. Advise those with respiratory distress to go directly to a hospital emergency room, and try to schedule those likely to be infected for the end of the day.
- Set up an office triage system for walk-in patients and separate all patients by at least a six-foot margin until they can be evaluated by designated triage personnel. Triage entering patients as soon as possible and send those suspected of being infected to an exam room or another waiting room immediately.

The **triage** specialist should:

1. First check for shortness of breath and other signs of respiratory distress. Telephone patients suffering respiratory distress should be advised to go directly to a hospital emergency room. Walk-in patients with such symptoms should be examined by a physician immediately.
2. For others, first check for fever greater than 100.4° F. (38° C.) and cough or sore throat.
3. Next, find out if patient has had contact with other sick people or visited areas that have reported many cases of influenza.
4. Isolate patients showing influenza-like illness.

Additional information can be found in the CDC's *Interim Guidance for Infection Control for Care of Patients with Confirmed or Suspected Novel Influenza A (H1N1) Virus Infection in a Healthcare Setting* at

http://www.cdc.gov/h1n1flu/guidelines_infection_control.htm.

and the Occupational Safety and Health Administration's *OSHA Fact Sheet for Healthcare Workplaces* at

www.osha.gov/Publications/exposure-risk-classifications-factsheet.htm.

Should my staff and I wear a respirator and/or other personal protective equipment (PPE) when examining and treating patients who might possibly have influenza?

Yes, although the NYSDOH has concerns about the use of respirators, their use is still advised as is other PPE as appropriate. For more information on how to select and use PPE, consult the CDC's webpage on Personal Protective Equipment (PPE) at

<http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/MedicalToolsandSupplies/PersonalProtectiveEquipment/default.htm>

as well as the CDC's *Guidance for the Selection and Use of Personal Protective Equipment (PPE) in Healthcare Settings* at

<http://www.cdc.gov/ncidod/dhqp/pdf/ppe/PPEslides6-29-04.pdf>.

If face masks or respirators are required in certain situations, what kind should my staff and I use? What kind should patients use?

HCW should wear fit-tested disposable surgical N-95 respirators if they have direct contact with infected patients; but because respirators are more difficult to breathe through, patients should only be given disposable face mask, if tolerable, to avoid spreading the virus to others. Respirators are not recommended for children or people with facial hair.

Respirators should be approved by the CDC/National Institute of Occupational Safety and Health (NIOSH). Face masks should be approved by the US FDA for use as medical devices and can be labeled as surgical, dental medical procedure, isolation or laser masks.

More details can be found in the CDC's *Interim Recommendations for Facemask and Respirator Use to Reduce Novel Influenza (H1N1) Virus Transmission* (8/5/2009) at <http://www.cdc.gov/h1n1flu/masks.htm>.

Where can I obtain more information about fit-testing, use, safe removal, disposal and medical contraindications for fit-tested disposable N95 and other NIOSH-certified filtering facemasks?

For more information about facemasks, respirators and their use, consult the *Respirator Fact Sheet* from the CDC's National Institute for Occupational Safety and Health (NIOSH) at <http://www.cdc.gov/niosh/npptl/topics/respirators/factsheets/respfact.html> and the CDC's webpage on "Personal Protective Equipment (PPE)" (8/31/2009) at <http://www.fda.gov/MedicalDevices/ProductsandMedicalProcedures/MedicalToolsandSupplies/PersonalProtectiveEquipment/default.htm>.

Should all staff wear personal protective equipment even if they do not have direct contact with possibly contagious patients?

No. Only staff with direct patient contact need to wear PPE, but try to limit the number of staff who come in contact with suspected novel H1N1 cases, and check staff daily for symptoms.

What simple hygienic practices should my staff adhere to while at work or at home?

Healthcare workers should practice the same respiratory hygiene and cough etiquette that are recommended for the general public in all settings.

- Cover the nose/mouth when coughing or sneezing or cough in fabric or sleeve
- Use tissues to contain respiratory secretions and dispose of them in the nearest waste receptacle after use.
- Perform hand hygiene frequently– with non anti-microbial soap and water, alcohol-based hand rub or antiseptic hand wash – especially after having contact with respiratory secretions and contaminated objects.

How will I know if patients are possible carriers of the novel H1N1 or other influenza virus?

As described above, ask triage questions by telephone before patients arrive or when they first enter the practice setting.

What symptoms should make me suspect that the patient might have influenza and should, therefore, be segregated from the rest of my practice?

Symptoms of Novel H1N1 Influenza

Fever (100.4° F/38° C or greater)
Cough
Shortness of breath
Fatigue/Weakness
Chills
Myalgias
Runny nose
Sore throat
Headache
Vomiting
Wheezing
Diarrhea

Should I let my staff report to work if they have symptoms of novel H1N1 infection?

No. As noted above, monitor HCWs daily for respiratory distress and other symptoms of influenza. Require them to stay at home for 7 days from symptom onset or until symptoms are resolved, whichever is *longer*. Upon return, make sure they continue to practice good respiratory etiquette and hand hygiene and avoid close contact with people known to be at increased risk of influenza-related complications. Shedding of influenza virus has been detected in some cases for 10 days or more after cessation of fever

Should I let my staff report to work if they have had unprotected exposure to the novel H1N1 virus but exhibit no symptoms of disease?

Yes, but consider giving them antiviral prophylaxis, and monitor them carefully.

Should I ask patients with ILI or who have been exposed to influenza, to wear face masks while waiting in my office?

Yes, and/or separate them from non-infected patients by having them wait in a separate area or direct them immediately to a separate exam room upon entry to practice setting. If possibly-infected patients cannot be placed in a separate room, separate them from non-infected patients by at least six feet.

SOURCES

Most of the sources referenced in this article can be accessed from the home web pages and/or H1N1 web sections of the organizations listed below.

Medical Society of the State of New York (MSSNY)

www.mssny.org

518-465-8085

New York State Department of Health (NYSDOH)

www.health.state.ny.us/diseases/communicable/influenza/h1n1/

518-473-4437 (Bureau of Immunization)

518-473-4439 (Bureau of Communicable Diseases)

800-808-1987 (hotline for the public)

NYSDOH H1N1 Advisory (9/14/2009)

http://www.health.state.ny.us/diseases/communicable/influenza/h1n1/health_care_providers/docs/2009-09-14_health_advisory_h1n1_vaccine.pdf

Pre-Registering to obtain novel H1N1 vaccine:

NYSDOH Letter to NYS Pediatric Health Care Providers (9/14/2009)

http://www.health.state.ny.us/diseases/communicable/influenza/h1n1/health_care_providers/docs/2009-14_dear_provider_preregister_h1n1_vaccine_under_19.pdf

NYSDOH Letter to Adult Health Care Providers (9/14/2009)

http://www.health.state.ny.us/diseases/communicable/influenza/h1n1/health_care_providers/docs/2009-09-14_dear_provider_pre-register_h1n1_vaccine_adults.pdf

NYSDOH H1N1 Vaccine Provider Pre-registration Request for Vaccine

<https://hcsteamwork1.health.state.ny.us/pub/top.html>

800-808-1987

New York City Department of Health and Mental Hygiene (NYCDOHMH)

<http://www.nyc.gov/html/doh/html/flu/flu-providers.shtml>

866-692-3641/866-NYS-DOH1 (information for physicians)

212-639-9675 or 311 (hotline for the public)

Pre-registering to obtain novel H1N1 vaccine:

NYCDOHMH Letter to NYC Physicians (8/28/2009)

<http://www.nyc.gov/html/doh/downloads/pdf/cd/cd-h1n1flu-cir-letter.pdf>

NYCDOHMH Citywide Immunization Registry (CIR) Registration

<http://www.nyc.gov/html/doh/html/flu/flu-providers.shtml>

212-676-2323

Local County Health Departments (LHD) in New York State
<http://www.health.state.ny.us/nysdoh/lhu/map.htm>

Centers for Disease Control and Prevention (CDC)
www.cdc.gov/h1n1flu/

CDC's US Department of Health and Human Services (HHS)
<http://www.pandemicflu.gov/>

CDC's National Institute for Occupational Safety and Health (NIOSH)
www.cdc.gov/niosh/topics/healthcare

World Health Organization (WHO)
www.who.int/csr/disease/swineflu/en/

American Academy of Family Physician (AAFP)
www.aafp.org

New England Journal of Medicine
<http://h1n1.nejm.org/>

Lancet
www.thelancet.com/H1N1-flu

This material has been reviewed by William Valenti, MD.