



2.1 Nasal swab and nasal wash:

- use face protection (either a medical mask and eye-visor or goggles, or a face shield);
- wear a gown and clean gloves; and
- perform hand hygiene before and after patient contact, and immediately after removal of PPE.

2.2 Collection of nasopharyngeal aspirate, nasopharyngeal swab, throat swab or bronchial aspirate⁹:

- follow the same precautions as for Aerosol generating procedures (above).

2.3 For the collection of blood:

- use a medical mask (if performed during the acute infectious phase);
- use clean gloves;
- perform hand hygiene before and after patient contact, and immediately after removal of PPE.

Additional information is available on the following websites

- WHO <http://www.who.int/csr/disease/swineflu/en/>
- Ministry of health and family welfare Government of India <http://www.mohfw.nic.in/SWINEFLU.htm> (Daily press briefings are available on this site)
- Center for disease control and prevention <http://www.cdc.gov/h1n1flu/>

References:

1. Fact Sheet on Influenza A [H1N1]. Ministry of health and family welfare, Government of India available at [http://www.mohfw.nic.in/FACTS%20SHEET%20ON%20INFLUENZA%20A%20\[H1N1\].doc](http://www.mohfw.nic.in/FACTS%20SHEET%20ON%20INFLUENZA%20A%20[H1N1].doc) accessed on 28th July 2009.
2. Transcript of virtual press conference with Dr Keiji Fukuda, Assistant Director-General ad Interim for Health Security and Environment. WHO (7 July 2009) available at http://www.who.int/mediacentre/Pandemic_h1n1_presstranscript_2009_07_07.pdf accessed on 28th July 2009.
3. Pandemic (H1N1) 2009 briefing note 3 (revised) WHO (16th July 2009) available at http://www.who.int/csr/disease/swineflu/notes/h1n1_surveillance_20090710/en/index.html accessed on 28th July 2009.
4. Pandemic (H1N1) 2009 - update 58. WHO (6th July 2009) available at http://www.who.int/csr/don/2009_07_06/en/index.html accessed on 28th July 2009.
5. Status as on 28th July 2009. Ministry of health and family welfare, Government of India available at <http://mohfw.nic.in/Status%20as%20on%2026th%20July%202009.doc> accessed on 30th July 2009.
6. Clinical management Protocol and Infection Control Guidelines. Ministry of health and family welfare, Government of India Guidelines available at <http://mohfw.nic.in/Clinical%20Management-Swine%20Flu.doc> accessed on 28th July 2009.
7. Infection prevention and control in health care for confirmed or suspected cases of pandemic (H1N1) 2009 and influenza-like illnesses. WHO guidance (Published on 25th June 2009) available at <http://www.who.int/csr/resources/publications/swineflu/swineinfintcont/en/index.html> accessed on 28th July 2009.

Influenza (Flu) pandemics are caused by new influenza viruses that have recently adapted to humans and resemble major natural disasters both in terms of recurrence and magnitude. The influenza virus, known to be circulating as a pathogen in the human population since at least the 16th century is notable for its unique ability to cause recurrent epidemics and global pandemics. The current Influenza – A first detected in Mexico in April, 2009 has spread to many countries in the World. Swine flu is basically a misnomer. It has been found that this new virus has gene segments from the swine, avian and human flu virus genes. The scientists call this a 'quadruple reassortant' virus¹. This new (novel) virus is christened influenza-A "pandemic (H1N1) 2009" to distinguish it from the current seasonal H1N1 viruses and to do so, in a way which was scientifically sound². On June 11, 2009, the WHO declared an H1N1 pandemic, moving the alert level to phase 6, marking the first global pandemic since the 1968 Hong Kong flu. The 2009 influenza pandemic has spread internationally with unprecedented speed. In past pandemics, influenza viruses have needed more than six months to spread as widely as the new H1N1 virus has spread in less than six weeks³. World Health Organization has reported 94,512 laboratory confirmed cases of influenza A/H1N1 infection from 135 countries as on 6th July 2009. There have been 429 deaths⁴. As per the information available on 28th July in India 2184 persons have been tested so far out of which 475 are positive for Influenza A H1N1 [Swine]⁵. There is no death reported in India as on 28th July.

Case Definition⁶

A confirmed case of Novel influenza A (H1N1) virus infection is defined as a person with an acute febrile respiratory illness with laboratory confirmed novel influenza A (H1N1) virus infection at WHO approved laboratories by one or more of the following tests:

- Real Time PCR
- viral culture
- Four-fold rise in swine influenza A (H1N1) virus specific neutralizing antibodies.

Investigations⁶

Routine investigations required for evaluation and management of a patient will include haematological, biochemical, radiological and microbiological tests as necessary.

For confirmation of diagnosis, clinical specimens such as nasopharyngeal swab, throat swab, nasal swab, wash or aspirate and tracheal aspirate (for intubated patients) are to be obtained. The sample should be collected by a trained physician / microbiologist preferably before administration of the anti-viral drug. Keep specimens at 4°C in viral transport media until transported for testing. The samples should be transported to designated laboratories within 24 hours. If they cannot be transported then it needs to be stored at -70°C. Paired blood samples at an interval of 14 days for serological testing should also be collected.



The UCB Academy of Allergy is an independent not for profit organization involved in the area of raising awareness about allergy amongst health care professionals, general public, patients and health officials.



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The samples are to be tested in BSL-3 laboratory. At present the following laboratories are the identified laboratories for this purpose:

- i) National Institute of Communicable Diseases, 22, Sham Nath Marg, Delhi [Tel. Nos. Influenza Monitoring Cell: 011-23921401; Director: 011-23913148]
- ii) National Institute of Virology, 20-A, Dr. Ambedkar Road, Pune-411001 [Tel.No. 020-26124386]

Treatment⁶

The guiding principles are:

- Early implementation of infection control precautions to minimize nosocomial / household spread of disease
- Prompt treatment to prevent severe illness & death.
- Early identification and follow up of persons at risk.

Oseltamivir Medication

- Oseltamivir is the recommended drug both for prophylaxis and treatment.
- Dose for treatment is as follows:
- By Weight: -

For weight <15kg	30 mg BD for 5 days
15-23kg	45 mg BD for 5 days
24-<40kg	60 mg BD for 5 days
>40kg	75 mg BD for 5 days

- For infants:

< 3 months	12 mg BD for 5 days
3-5 months	20 mg BD for 5 days
6-11 months	25 mg BD for 5 days
It is also available as syrup (12mg per ml)	

If needed dose & duration can be modified as per clinical condition. Currently this drug is available in designated government hospitals only.

Though the vaccines are available for the seasonal flu virus infections there is no vaccine currently available for pandemic H1N1 2009. The vaccines are in developmental stage and will be available in the next few months. Center for disease control and prevention has recently issued priority groups for vaccination however WHO or Ministry of health and family welfare, Government of India has not issued any such priority groups upto now.

Infection control precautions in specific situations⁷

1. Caring for patients with suspected or confirmed infection

For staff providing care for patients with suspected or confirmed pandemic (H1N1) 2009 infection and for patients with influenza-like symptoms, the following precautions should be taken.

1.1 When working in direct contact with patients, Standard and Droplet Precautions should always be applied.

As per Droplet Precautions:

- wear a medical mask, if working within or < 1 meter of the patient.
- emphasize hand hygiene before and after patient contact, and immediately after removal of mask.

As per Standard Precautions, for procedures with a risk for splashes onto the face and body, PPE (Personal Protection Equipment) should include the use of:

- facial protection (either a medical mask and eye-visor or goggles, or a face shield).
- a gown and clean gloves; and
- hand hygiene before and after patient contact, and after PPE removal.

1.2 When performing aerosol-generating procedures (e.g. aspiration of respiratory tract, intubation, resuscitation, bronchoscopy, and autopsy), health-care providers should be aware that these procedures have been associated with increased risk of infection transmission and IC precautions should include the following:

- wear a facial particulate respirator (e.g. EU FFP2, US NIOSH-certified N95), eye protection (i.e. goggles or a face shield); a clean, non-sterile, long-sleeved gown; and gloves (some of these procedures require sterile gloves);
- perform procedures in an adequately ventilated room (> 12 air changes per hour);
- avoid permitting unnecessary individuals into the room; and
- perform hand hygiene before and after patient contact, and after PPE removal.

2. Collection of laboratory specimens

Upper respiratory tract specimens are the most appropriate samples for laboratory testing of pandemic (H1N1) 2009 virus in humans. Samples should be taken from the deep nostrils (nasal swab), nasopharynx (nasopharyngeal swab), nasopharyngeal aspirate, and/or throat or bronchial aspirate. Blood samples may be used for serologic purposes (either during the acute or convalescent phases). In addition to Standard Precautions, specific IC precautions should be taken when collecting patient specimens as follows.