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भारत सरकार

Government of India

नवीन और नवीकरणीय ऊर्जा मंत्रालय

Ministry of New & Renewable Energy

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10<sup>th</sup> February 2014

Dear Colleagues,

You may be aware that virus i.e. Swine Flu is on rise in Delhi and elsewhere in India. The symptoms of Swine Flu, a virus, where causes are high fever, breathing problems/chest pain while breathing, coughing of blood tinged sputum, chills, diarrhea, sore throat, fatigue, etc. etc.

2. In order to create awareness about Swine Flu, two detailed notes are attached, one giving details about the causes, risk factors, symptoms, diagnosis, preventions, etc., and another providing tips / guidelines for providing Home Care, with the request to take all possible preventive measures (as detailed therein) so that none of us or our family members and any of our acquaintances fall victim to this fetal virus.

Please ensure to spread awareness about this fetal decease and prevention thereon, as much as you can, so as to help in preventing and eradicating Swine Flu

(Girish Kumar)  
Director (Admn.)

Encl: as above.

To all in MNRE

Notice Board

MNRE website i.e. [www.mnre.gov.in](http://www.mnre.gov.in)

## **(SWINE FLU –CAUSES AND PRECAUTIONS- THEREON)**

### **About Swine flu**

The swine flu virus we are discussing here is the 2009 H1N1 type A influenza, a human disease. It's a zoonotic disease which originally was transmitted from pigs to humans and now spreads from one human to another. The symptoms of swine flu are very similar to regular influenza and include [fever](#), [headaches](#), chills, [diarrhoea](#), coughing and sneezing. One can prevent infection by maintaining basic hygiene and wearing a proper surgical mask during [flu](#) season. The number of cases shoots up during the summers and monsoon seasons. There are various [vaccines](#) available to combat the disease and antiviral treatments for prevention as well. One should however only use these [medicines](#) under a doctor's supervision as indiscriminate use might result in susceptibility to the virus. Here are [ten facts you should know about Swine flu](#).

1. Swine flu or H1N1 type A influenza is transmitted from **people and NOT from pigs or swines**.
2. If you have normal immunity, you may not be prone to swine flu.
3. People who are at high-risk include very [young children](#), [pregnant women](#), [diabetics](#), people with [heart conditions](#) and those whose immune systems may be weak and compromised.
4. Sudden **fever** of more than 100 degree Fahrenheit, **fatigue, chills, headaches, cough and sneezing, sore throat, diarrhoea, loss of appetite** are some of the symptoms of swine flu.
5. One cannot exactly know that he/she is suffering from swine flu because the symptoms are very similar to regular flu. If you have very high fever for more than a day or two, sudden breathlessness, you should contact your doctor immediately.
6. If you already have fever, it's better to stay at home in order to prevent the disease from spreading. **Always cover your face** while coughing and sneezing. **Avoid touching** your face, nose and eyes often. It can also spread through inanimate objects like the **mobile phone, laptop etc.** which we end up frequently using. So, it's better to avoid using others' belongings. In case of sore throat, gargle with warm salt water.
7. It is possible to prevent swine flu. Maintain your health and immunity well. Eat healthy food, get good sleep, avoid stress. Avoid visiting crowded public places if you can. If you do visit them, wash your hands and feet well. Better still, just take a shower.
8. Though **injectable vaccines** (Influvac, Agrippal, Vaxigrip, Vaxiflu-S and Fluarix) against swine flu are available, the Government has ruled out universal vaccination for now and has recommended that it be used only for people who are actively treating the swine flu patients (doctors and other medical practitioners).
9. Swine flu can only be **diagnosed** for sure in labs. It is diagnosed by identifying the particular antigens associated with the virus type. In general, this test is done in a specialized laboratory and is not done by many doctors' offices or hospital laboratories. However, doctors' offices are able to send specimens to specialized laboratories if necessary.
10. There are certain antiviral drugs which help treat swine flu - **Zanamivir (Relenza)** and **Oseltamivir (Tamiflu)**. One should take these only with a doctor's prescription since indiscriminate use could lead to resistance to the virus. The patient will need to be hospitalized, isolated and put on a ventilator in severe cases.

### **Causes**

Swine flu is a [respiratory illness](#) caused by the swine influenza virus (SIV). The pandemic of swine flu was caused by the SIV sub type H1N1. But other subtypes H1N2, H1N3, H3N1, H3N2 and H2N3 can

also cause the illness. The virus was termed H1N1 because it mainly exhibited two types of antigens hemagglutinin 1 and neuraminidase 1.

The illness is originally known to affect pigs. It is known to have spread to humans who came in direct contact with pigs. However, the new virus or the mutated type of virus that has emerged over the years has the ability to affect humans without direct contact with pigs. The virus is transmitted from person to person through the same medium as other flu viruses.

A healthy person may acquire the infection by inhaling droplets expelled by the infected person while coughing or sneezing or by contacting surfaces infected with the virus. The virus is not transmitted directly by eating cooked pork.

### **Risk factors**

Since swine flu can directly be transmitted from one person to another through air droplets, people who fail to follow proper hygiene, especially in crowded places are at a high risk of contracting the virus. But, according to observations, there are specific groups of individuals that have been the most affected by the illness. The group at a high risk includes:

- Individuals having any other respiratory condition like [pneumonia](#)
- [Pregnant women](#)
- People suffering from chronic diseases like [heart disease](#) and [diabetes](#)
- People more than 65 years of age and children younger than 2 years

These risk groups have been identified based on observation and doesn't imply that you have swine flu if you have flu like symptoms and belong to any of the above risk groups. But, you should seek necessary medical care if you have flu symptoms.

### **Symptoms**

Most of the symptoms of swine flu are quite similar to regular influenza. Symptoms include:

- [Fever](#)
- [Headache](#)
- Chills
- [Diarrhoea](#)
- Cough
- Sneezing
- [Sore throat](#)
- Block nasal passage
- [Fatigue](#)

### **Diagnosis**

Diagnosis of swine flu influenza A infection is done by laboratory analysis. If you have flu like symptoms, your respiratory specimen will be collected, preferably within 4 to 5 days of visible symptoms. A real time PCR test is done where the viral genetic material is identified.

## Treatment

Once the patient is tested positive for swine flu, treatment needs to be initiated immediately. According to the National Institute of Communicable Disease (NICD), swine flu can be completely treated if it is diagnosed at a very early stage.

The anti-viral medicines oseltamivir (Tamiflu/Fluvir) and zanamivir (Relenza) are given to diagnosed patients. Oseltamivir is given to in adults as well as to children below the age of 1 year.

As per NICD, the medicine should be administered within 48 hours of the first symptom. The drugs work by inhibiting the ability of virus to release progeny virus particles.

## .Prognosis

People who have a pre-existing condition respiratory problem like [COPD](#) or lifestyle disorders like diabetes are usually worst hit by the disease and may suffer from pneumonia, respiratory failure, [dehydration](#), electrolyte imbalance, kidney failure and even death.

## Prevention

Just like other influenza viruses, H1N1 infection can be prevented by practicing basic hygiene. Here are some tips to [prevent swine flu](#):

- Wear a proper surgical mask during flu season because the number of cases shoots up during the summers and monsoon seasons.
- Always cover your face while coughing or sneezing. Ensure others around you also follow the same practice, especially if they're down with cold.
- Avoid touching your eyes, nose or mouth too often
- [Always wash your hands](#) before and after eating and particularly after returning from a public place.
- Remember the virus can also spread through droplets that have settled on surfaces so avoid touching them if you're around a person who has flu like symptoms.
- Avoid visiting unhygienic places or using public restrooms. (Here is a [9-step healthy guide to use the public toilet](#))
- If you're in a city/area is swine-flu endemic, wear a standard swine flu mask while going out in public places (the H-95 mask which is worn by nurses and doctors while collecting samples from swine flu victims). Normal surgical masks which sell like hot cakes during swine flu season might not give enough protection.
- If you develop flu like symptoms or even feel sick, stay at home and take enough rest. Keeping away from others to prevent the spread of the infection.
- Drinking lots of warm [water](#) and fluids wash off the virus into the stomach where they cannot survive.

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## **Guidelines for Providing Home Care.**

The present Pandemic Influenza A H1N1 is of moderate severity. Large number of cases are mild requiring only home isolation and symptomatic treatment. Ministry of Health & Family Welfare, Government of India has already prepared guidelines for categorization of patients during screening (available on the website –mohfw.nic.in). For category A & B, home isolation and treatment is recommended. These guidelines need to be followed for such category of patients.

### **Guiding Principles:**

#### **Patient should :**

- Be informed about the illness during screening.
- Stay home for seven days, preferably isolate himself / herself in a well ventilated room.
- Avoid common areas frequented by other members of the family.
- If the living space is small and more than one person need to sleep in a room, ensure that the head end of patient and others sleeping in that room are in opposite direction (head to toe).
- Wear mask all the time. Three layered surgical mask should be provided by the hospital / community health worker. If mask is not readily available, mouth and nose should be covered with a piece of cloth/handkerchief
- Avoid smoking.
- Avoid close contact with others. If inevitable, they should always maintain an arm's length.
- Avoid having visitors.
- Avoid going into the community, school, office, markets.
- Wash hands frequently.
- Self monitor health and report to identified health facility in case of worsening of symptoms.

#### **Treatment**

- Mild influenza illness does not require specific anti-viral medicine.
- Medicines should be taken only on advice of the health care provider:
  - Paracetamol for fever and ibuprofen for myalgia can be taken as per the advice of health care provider;
  - Oseltamivir to be taken, if prescribed / advised by the doctor only;
  - Children need to be given pediatric preparation and dosage of the above drugs

- ➔ Aspirin should not be given for fever or body ache. Medicines (Other than paracetamol) available for fever, headache, and body ache in general groceries, pan shops etc. should not be taken as they may contain aspirin.
- ➔ Patients should take plenty of fluids, rest and do warm saline gargies.

### **Early Warning Signs**

- ➔ Patients advised home care should look for the early warning signs mentioned below:
  - Fever remains high and not responding;
  - There is difficulty in breathing or pain in the chest while breathing
  - Coughing of blood tinged sputum
  - In particular, patients with co-morbid condition (hypertension, diabetes, bronchial asthma, chronic bronchitis or Obstructive airway diseases etc) need to be observed for worsening of symptoms
  - In young children, irritability, not accepting feeds, vomiting, fast breathing rate and seizures are signs that need immediate attention and doctor's consultation.

### **Chemoprophylaxis to the contacts:**

- ➔ All the contacts need to self-monitor their health;
- ➔ Chemoprophylaxis to house hold contacts would be as per the policy decision taken by the Government which would be based on the severity of disease and stage of the pandemic.
- ➔ If there is community spread, then chemoprophylaxis of family and social contacts is not recommended. However, house hold contacts having co morbid condition would be put on chemoprophylaxis.

### **Infection Control**

- ➔ The infection control practices listed in the guiding principles would be followed including frequent hand wash, cough etiquettes; maintaining arm's length from others;
- ➔ The contact surfaces would be disinfected by wiping , with sodium hypochlorite solution or with house hold bleach (5%) solution;
- ➔ Masks, tissue papers should be disposed of in dustbins. Hands should be washed after handling these wastes
- ➔ Utensils used by the case should not be used by others without washing

➔ Wash hands with soap and water before and after handling linens and towels used by the patient.

In case of need:

➔ Contact NICD outbreak Monitoring Cell at : 011-23921401

➔ Look for updates at [www.mohfw.nic.in](http://www.mohfw.nic.in)

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