

# SWINE FLU

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## WHAT IS SWINE FLU?

**Swine influenza** (also called swine flu, hog flu, and pig flu) is an infection by any one of several types of swine influenza virus. Swine influenza virus (SIV) is any strain of the influenza family of viruses that is endemic in pigs. As of 2009, the known SIV strains include influenza C and the subtypes of influenza A known as H1N1, H1N2, H3N1, H3N2, and H2N3.

Swine influenza virus is common throughout pig populations worldwide. Transmission of the virus from pigs to humans is not common and does not always lead to human influenza often resulting only in the production of antibodies in the blood. If transmission does cause human influenza, it is called zoonotic swine flu. People with regular exposure to pigs are at increased risk of swine flu infection. The meat of an infected animal poses no risk of infection when properly cooked.

Swine flu viruses have been reported to spread from person to person, and this is more dangerous aspect of this flu. That it is highly contagious strain. [{HYPERLINK IMAGE 1}](#)

## HOW IS IT CAUSED/SPREAD OF DISEASE

Swine Flu basically originated in swine or pigs, as SIV generally affects pigs. Human got infected by this virus by consuming infected pig meat or coming in direct contact with infected swines. Mean it is transferred, when virus enters the body through eyes , nose or mouth. And then human to human transfer occurs. This human to human transfer takes place by coming in direct contact with infected person or sharing same clothes and other belongings with that person. Its mode of transfer is via air and virus particles travel through air and thus making it more contagious.

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## SYMPTOMS OF SWINE FLU

The symptoms of H1N1 flu virus (human swine flu) are very similar to those of seasonal human influenza. People with swine influenza may experience:

- Body aches
- Chills
- Cough
- Fatigue
- Fever
- Headache
- Loss of appetite
- Sore throat

Some people with H1N1 flu virus have also reported vomiting and diarrhea.

The severity of symptoms can vary from mild to severe and sometimes require hospitalization. In some cases, severe complications such as pneumonia and respiratory failure can cause death. Like the seasonal flu, swine flu may worsen existing chronic medical conditions.[{HYPERLINK IMAGE 2}](#)

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## INCUBATION PERIOD

The incubation period for swine flu (time between infection and appearance of symptoms) can be up to seven days, but is most likely to be between two and five days. It is, however, at this stage there is no certainty about the incubation period.

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## **HOW SWINE FLU IS DIAGNOSED?**

We have a specialized test for Swine flu. This test is recommended by NICD (National Institute Of Communicable Diseases)

### **SAMPLE:**

Respiratory specimens including throat swab, and nasopharyngeal /nasal swabs are taken from ambulatory patients..

From incubated patients admitted in the ICU the sample is bronchoalveolar lavage or tracheal aspirates. Samples are transported in special viral transport medium which is packed in such a way that there is no chance of contaminating the environment or it being a risk to those handling the box.

### **METHOD:**

The methodology being used is real time detection and identification of the swine flu virus using the protocol from CDC Atlanta (USA).

The first step is RNA extraction of the virus. The target sequences are amplified and the detection occurs simultaneously.

The CDC realtime RT-PCR (rRTPCR) protocol for the detection and characterization of Swine Influenza includes a panel of oligonucleotide primers and dual labeled probes to be used in real time RT-PCR assays for the invitro qualitative detection and characterization of swine influenza viruses in respiratory specimens and viral cultures. The first primer-probe set, Influenza A is designed for universal detection of type A influenza viruses. The swInfA primer and probe set is designed specifically to detect all swine influenza A viruses. The swH1 set is designed specifically to detect swine H1 influenza. The fourth set detects the human Rnase P gene and reflects that the assay has been carried out properly without any inhibition of PCR.

### **INTERPRETATION**

A sample is said to be positive for Swine flu (H1N1) if all three targets i.e. Influenza A, H1N1 Influenza A, and H1N1 Influenza A subtype H1 are detected. If a sample is positive for only two

of the above targets a repeat sample is recommended. If all four targets are negative, a repeat sample should be done.

Target	InfA	swInfA	swH1	Rnase P	Interpretation
Result	+	+	+	+	Positive Swine Flu
Result	+	-	-	+	Repeat sample
Result	+	+	-	+	Repeat sample
Result	+	-	+	+	Repeat sample
Result	-	-	+	+	Repeat sample
Result	-	+	-	+	Repeat sample
Result	-	-	-	-	Repeat sample
Result	-	-	-	+	Negative

A negative result does not preclude the presence of Influenza A H1N1 infection because results depend on adequate specimen collection, absence of inhibitors, and sufficient RNA to be detected.

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### HOW SWINR FLU IS TREATED?

After testing positive for swine flu, patient should immediately be quarantined in an isolated room or in hospital. National Institute of Communicable Diseases (NICD) information says that the swine flu can be treated if caught very early with two of the anti-viral medications **oseltamivir (Tamiflu/Fluvir)** and **zanamivir (Relenza)**. Tamiflu is for treatment in adults and children aged 1 year and older, and must be taken within 48 hours of the first symptom.

Till now this strain of influenza virus is in a dynamic state means there is no consistency( in scientific terms it keeps on mutating) in its level of occurrence because evidently in some patients its being treated successfully with Tamiflu and in some tamiflu is ineffective. And moreover at present there is no effective vaccine present.

So basically precaution is the best treatment.

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## PRECAUTION

As the flu is now spreading via person -to-person contact; the infection primarily spreads when a person comes in close contact with an infected person. The simple way to minimize the risk is by covering the mouth and nose while coughing and sneezing and wearing a mask while going close to the infected person.

Maintaining high level of hygiene is also important and one should always wash hands frequently with soap and water.

Since influenza spreads through both air and contact with contaminated surfaces, surface sanitizing may help prevent some infections. For that alcohol is an effective sanitizer, bleach can also be used to sanitize rooms or equipment that have been occupied by patients with influenza symptoms.

### IMAGE 1

#### STRUCTURAL VIEW OF H1N1 VIRUS {IMAGE SOURCE:WIKIPEDIA}

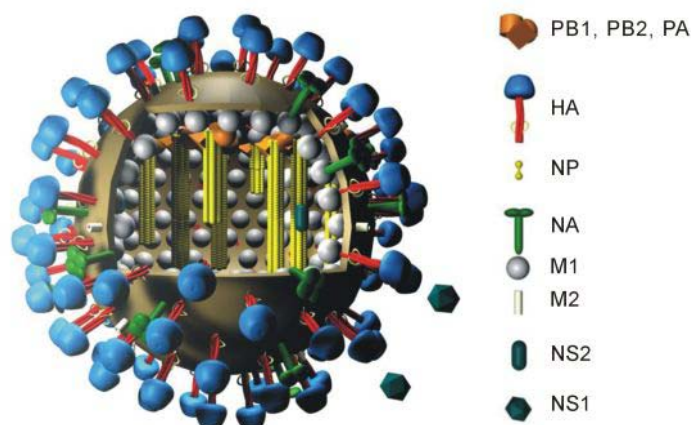


IMAGE 2

## Symptoms of Swine Flu

