



## *X-Plain*

### *H1N1 Flu (Swine Flu)*

## **Reference Summary**

### **Introduction**

H1N1 flu, also called swine flu, is a respiratory disease of pigs that has now spread to humans. “Swine” refers to animals such as pigs, hogs, and boars. “Flu” is an abbreviation of influenza. “H1N1” is the name of the virus that has spread to humans.

People do not normally get swine flu viruses, but human infections can and do happen. Beginning in late March 2009, cases of humans infected with the H1N1 flu virus have been reported in the USA and internationally.

This reference summary explains what the H1N1 flu is. It discusses its symptoms, when to seek medical help, and its treatment options. It also provides important prevention tips.

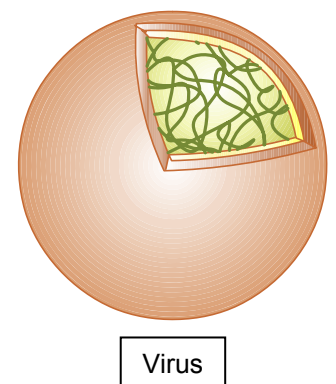
### **About Viruses**

Viruses are very small living particles. This section reviews information about viruses that will help you understand the H1N1 flu virus.

Viruses are made of an outer shell that protects genetic material packaged inside. In order for a virus to reproduce, it needs to enter a living cell by attaching itself to the living cell’s surface. Viruses tend to infect only specific cells in a specific species. For example, certain viruses may only attack human cells while others can attack only bird cells.

Once inside the cell, the genetic material of the virus blends with the genetic material of the infected cell and copies itself hundreds, if not thousands of times.

The hundreds of copied viruses then kill the cell, burst out of it, and infect many new cells. The cycle repeats itself and can make a person very sick unless the person’s immune system destroys the virus. The immune system is responsible for defending the body against viruses.

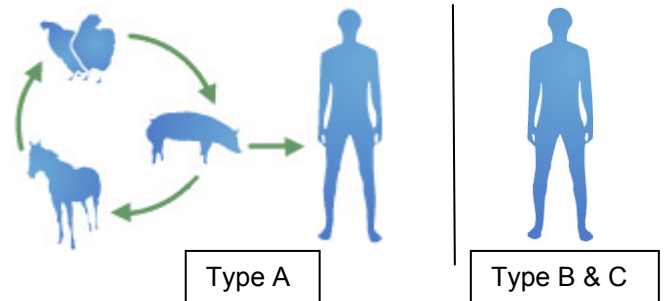


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When a virus is copying itself, the genetic material of the virus can go through changes known as 'mutations'. The virus can also exchange genetic material with the infected cell which can modify the surface of the virus. This may make it possible for the virus to attack the living cells of different species such as pigs and humans. A virus modified by mutation is known as a different strain.

There are three types of influenza viruses, A, B and C. Types B and C are usually only found in humans. Type A can be found in both humans and animals such as birds, pigs, horses, whales, and seals.



### H1N1 Flu Infections

Influenza viruses happen naturally among pigs, hogs, and boars. Swine influenza is very contagious among swine. It can make some domesticated pigs very sick.

It is unusual for humans to catch swine flu viruses, but occasionally cases happen, usually in people who have contact with infected pigs. Swine flu viruses have also been reported to spread from person to person in the past, but previous episodes of transmission were very limited.

The recent infections are caused by a new strain (or type) of the swine flu virus known as Type A, subtype H1N1. That is why this flu is called Influenza A H1N1, or simply H1N1 flu. This new strain seems to be progressing rapidly and humans have not yet had a chance to develop antibodies or protection against it.



Flu viruses are spread mainly from person to person when infected people cough or sneeze. Sometimes people may become infected by touching something with flu viruses on it and then touching their mouth or nose.

Droplets from a cough or sneeze of an infected person move through the air. Germs can be spread when a person touches another person's respiratory droplets that are on a surface like a desk, and then touches their own eyes, mouth, or nose before washing their hands. Germs can be spread when a person touches something that is contaminated with germs such as a table, door knob, or desk and then touches his or her eyes, nose, or mouth. Frequent hand washing will help you reduce the chance of

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getting contaminated from these common surfaces. You cannot get the H1N1 flu from eating cooked pork.

Infected people may be able to infect others beginning one day before symptoms develop and up to seven or more days after becoming sick. Children, especially younger children, might be contagious for longer periods.

## Symptoms

The most common symptoms of H1N1 influenza in humans are similar to typical human flu and include:

- Fever
- Cough
- Sore throat
- Body aches
- Chills
- Fatigue



Some people have reported diarrhea and vomiting associated with H1N1 flu. People who have chronic conditions such as asthma, diabetes, congestive heart failure, etc. may notice a worsening of their medical conditions.

## Emergency Signs

If you have severe symptoms, your doctor can test if your flu symptoms are caused by H1N1 flu. This section discusses when you or your child should seek medical help.

You should watch for flu-like signs. These signs are fever, body aches, runny nose, sore throat, nausea, vomiting, and diarrhea.

Signs of the flu are often mild and do not require medical evaluation in the clinic. When the symptoms are mild, it is important to keep yourself hydrated, get plenty of rest, and practice good hand hygiene. You should seek medical care if you or your child develop any of the “emergency warning signs”. Some of the “emergency warning signs” that require urgent medical attention are listed next.

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In children, some emergency warning signs include:

- Fast breathing or trouble breathing
- Bluish skin color
- Not drinking enough fluids
- High or prolonged fever

You should also seek immediate medical attention if you notice changes in your child's mental status, such as:

- Not waking up
- Not interacting
- Extreme irritability and not wanting to be held

In adults, some emergency warning signs that need urgent medical attention include:

- Difficulty breathing or shortness of breath
- Pain or pressure in the chest or abdomen
- Sudden dizziness
- Near-fainting or fainting
- Confusion
- Severe or persistent vomiting
- High or prolonged fever



If you or your child have flu-like symptoms that get better but then come back with a fever and a worse cough, seek medical attention as soon as possible.

When you arrive, tell the receptionist or nurse about your symptoms. You may be asked to wear a mask and sit in a separate area to protect others from getting sick.

## Treatment

Which treatment is appropriate for you is based on the severity of your illness. Your doctor may consult with an infectious disease specialist to determine the best treatment.

Certain antiviral drugs approved for human influenza viruses should work in treating H1N1 influenza infection in humans.



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Antiviral drugs are prescription medications that can help the flu by keeping flu viruses from reproducing in your body. These include pills, liquids, or inhalers.

Antiviral medications are currently recommended only for those patients with moderate or severe illness from H1N1 flu. Most people get better without antiviral medicines. Antiviral medications must be taken within 48 hours after symptoms appear. They may diminish your symptoms, but they may not make your symptoms go away entirely.

If supplies of antiviral medications are limited, it is necessary to save them for people who may develop the most severe symptoms. Other flu treatments that should work for H1N1 flu include rest, medications to bring down a high fever, and drinking plenty of water. If complications happen and you become very sick, hospitalization may be needed. Hospitalized patients may be given oxygen or use a respirator.

Children or teenagers with the flu should get plenty of rest and drink lots of liquids. The medicines that they take to relieve their symptoms should NOT contain aspirin. Never give aspirin to children or teenagers who have flu-like symptoms, especially a fever, without first speaking to your healthcare provider. Giving aspirin to children and teenagers who have influenza can cause a rare but serious illness called Reye syndrome. Reye syndrome involves brain damage and liver damage. Its causes are unknown but it is associated with the use of aspirin in children to treat influenza and chickenpox.

## **Prevention Tips**

A vaccine has been developed to protect against the H1N1 flu virus. Certain groups of the population who are at higher risk of complications from H1N1 should preferentially receive the vaccine in cases of vaccine shortages. These target groups include pregnant women, people who live with or care for children younger than 6 months of age, healthcare and emergency medical services personnel, persons between the ages of 6 months and 24 years old, and people ages of 25 through 64 years of age who are at a higher risk for H1N1 because of chronic health disorders or compromised immune systems.

Flu vaccines in general have been found to be very safe for pregnant women. There is no reason to believe that the H1N1 vaccine will behave differently. Because of the very real and serious risks to the mother and the unborn child from an H1N1 infection, pregnant women are urged to get vaccinated.

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Current studies indicate the risk for infection among persons age 65 or older is less likely than the risk for younger age groups. Therefore, as vaccine supply improves and demand for vaccine among younger age groups is being met, programs and providers may begin to offer vaccination to people over the age of 65.

The seasonal flu vaccine does not protect against the H1N1 flu. Seasonal and H1N1 influenza vaccines can be administered on the same day in the following scenarios:

- Both are the injectable form
- One vaccine is in the mist form and one in the injectable form

If both vaccines are administered in the mist form, they must be given 28 days apart from each other.

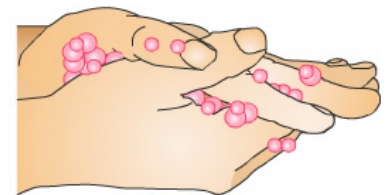
The following tips will help you prevent flu infections such as the common flu and the H1N1 flu.

Wash your hands often with soap and water, especially before eating and after sneezing or coughing. You can also use an alcohol gel product available over the counter, which is also effective in protecting against flu.

When you cough or sneeze, cover your mouth and nose with your elbow or sleeve. Or use a tissue and be sure to throw away the tissue after use. Wash your hands after you sneeze or cough. Try to avoid close contact with sick people. Avoid touching your eyes, nose, or mouth. Germs spread this way. Try to stay in good general health. Get plenty of sleep, be physically active, manage your stress, drink plenty of fluids, and eat nutritious food.

If you get sick with the flu, here are some tips to avoid spreading the disease to others:

- Stay at home and avoid contact with other people.
- Cover your nose and mouth with a tissue when you cough or sneeze. Put used tissues in a waste basket. If you don't have a tissue, cough or sneeze into your upper sleeve.
- Wash your hands every time you cough or sneeze. Alcohol-based hand cleaners are also effective.



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## Prevalence & Updates

An updated case count of confirmed H1N1 flu infections in the United States can be found at the following website:

[www.cdc.gov/h1n1flu/](http://www.cdc.gov/h1n1flu/)

The World Health Organization, or WHO, is coordinating the global response to human cases of the H1N1 flu and monitoring the related threat of an influenza pandemic.

Updated information can be found at the following website:

[www.who.int/en/](http://www.who.int/en/)

## Conclusion

H1N1 influenza or swine flu is a contagious disease that is caused by the influenza virus. Infection with the H1N1 influenza virus can result in severe illness and life-threatening complications. Symptoms of H1N1 flu are similar to those of the common flu and scientists are actively studying the situation to better understand its range of symptoms and how it is spread.

Resting and drinking plenty of fluids usually allows infected people to recover from the flu. For people at high risk of developing flu complications, medications and hospitalization may be needed.

The flu can be prevented by avoiding close contact with sick people, washing your hands frequently, and getting vaccinated. If you have the flu, you can help stop the spread of this infectious disease by staying home while you are sick and by covering your mouth and nose as you cough or sneeze.



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