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# H1N1 flu (swine flu)

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# Overview

The H1N1 flu, sometimes called swine flu, is a type of influenza A virus.

During the 2009-10 flu season, a new H1N1 virus began causing illness in humans. It was often called swine flu and was a new combination of influenza viruses that infect pigs, birds and humans.

The World Health Organization (WHO) declared the H1N1 flu to be a pandemic in 2009. That year the virus caused an estimated 284,400 deaths worldwide. In August 2010, WHO declared the pandemic over. But the H1N1 flu strain from the pandemic became one of the strains that cause seasonal flu.

Most people with the flu get better on their own.

But flu and its complications can be deadly, especially for people at high risk. The seasonal flu vaccine can now help protect against the H1N1 flu and other seasonal flu viruses.

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# Symptoms

The symptoms of flu caused by H1N1, commonly called the swine flu, are similar to those of other flu viruses.

Symptoms usually start quickly and can include:

- Fever, but not always.

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- Aching muscles.
- Chills and sweats.
- Cough.
- Sore throat.
- Runny or stuffy nose.
- Watery, red eyes.
- Eye pain.
- Body aches.
- Headache.
- Tiredness and weakness.
- Diarrhea.
- Feeling sick to the stomach, vomiting, but this is more common in children than adults.

Flu symptoms develop about 1 to 4 days after you're exposed to the virus.

## Related information

- [COVID-19 vs. flu: Similarities and differences](#)
- [COVID-19, cold, allergies and the flu: What are the differences?](#)

## When to see a doctor

If you're generally healthy and develop flu symptoms, most people may not need to see a health care provider. But some people are at higher risk of flu complications.

Call your care provider if you have flu symptoms and you're pregnant or hav

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chronic disease. Some examples are asthma, emphysema, diabetes or a heart condition.

If you have emergency symptoms of the flu, get medical care right away. For adults, emergency symptoms can include:

- Trouble breathing or shortness of breath.
- Chest pain.
- Signs of dehydration such as not urinating.
- Ongoing dizziness.
- Seizures.
- Worsening of existing medical conditions.
- Severe weakness or muscle pain.

Emergency symptoms in children can include:

- Trouble breathing.
- Pale, gray or blue-colored skin, lips or nail beds depending on skin color.
- Chest pain.
- Dehydration.
- Severe muscle pain.
- Seizures.
- Worsening of existing medical conditions.

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## Causes

Influenza viruses such as H1N1 infect the cells that line your nose, throat and lungs. The virus spreads through the air in droplets released when someone with the virus coughs, sneezes, breathes or talks. The virus enters your body when you breathe in contaminated droplets. It also can enter your body if you touch a contaminated surface and then touch your eyes, nose or mouth.

You can't catch swine flu from eating pork.

People with the virus are likely able to spread the virus from about a day before symptoms appear until about four days after they start. Children and people with weakened immune systems may be able to spread the virus for a slightly longer time.

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## Risk factors

Factors that may increase your risk of developing H1N1 or other influenza viruses or their complications include:

- **Age.** Influenza tends to have worse outcomes in children under age 2, and adults older than age 65.
- **Living or working conditions.** People who live or work in facilities with many other residents are more likely to get the flu. Some examples are nursing homes or military barracks. People who are staying in the hospital also are at higher risk.
- **Weakened immune system.** Cancer treatments, anti-rejection medications, long-term use of steroids, organ transplant, blood cancer or HIV/AIDS can weaken the immune system. This can make it easier to catch the flu and may increase the risk of developing complications.

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- **Chronic illnesses.** Chronic conditions may increase the risk of influenza complications. Examples include asthma and other lung diseases, diabetes, heart disease, and nervous system diseases. Other examples are metabolic disorders, problems with an airway and kidney, liver or blood disease.
- **Race.** American Indians or Alaska Native people may have a higher risk of influenza complications.
- **Aspirin use under age 19.** People on long-term aspirin therapy and who are younger than 19 years of age are at risk of Reye syndrome if infected with influenza.
- **Pregnancy.** Pregnant people are more likely to develop influenza complications, especially in the second and third trimesters. This risk continues up to two weeks after the baby is born.
- **Obesity.** People with a body mass index (BMI) of 40 or higher have a higher risk of flu complications.

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## Complications

Influenza complications include:

- Worsening of chronic conditions, such as heart disease and asthma.
- Pneumonia.
- Neurological symptoms, ranging from confusion to seizures.
- Respiratory failure.
- Bronchitis.
- Muscle tenderness.
- Bacterial infections.

**[Flu vaccines at Mayo Clinic](#)**

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[Mayo Clinic offers flu shots in Arizona, Florida and Minnesota.](#)

[Learn more about how to get your flu shot at Mayo Clinic.](#)

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# Prevention

The Centers for Disease Control and Prevention (CDC) recommends annual flu vaccination for everyone age 6 months or older. The H1N1 virus is included in the seasonal flu vaccine.

The flu vaccine can lower your risk of getting the flu. It also can lower the risk of having serious illness from the flu and needing to stay in the hospital.

Each year's seasonal flu vaccine protects against the three or four influenza viruses. These are the viruses expected to be the most common during that year's flu season.

Flu vaccination is especially important because the flu and coronavirus disease 2019 (COVID-19) cause similar symptoms.

Both COVID-19 and the flu may be spreading at the same time. Vaccination is the best way to protect against both. Flu vaccination could lessen symptoms that might be confused with those caused by COVID-19.

Vaccination also helps lower the number of people with severe flu and complications. And that may lower the number of people needing to stay in the hospital.

The flu vaccine is available as an injection and as a nasal spray.

The nasal sprav is approved for people between 2 and 49 years old. It isn't

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recommended for some groups, such as:

- Children younger than age 2.
- Adults age 50 and older.
- Pregnant people.
- Children between 2 and 17 years old who are taking aspirin or a salicylate-containing medication.
- People with weakened immune systems.
- Close contacts or caregivers of people with highly weakened immune systems. Examples are people receiving chemotherapy, or recent bone marrow or solid organ transplantation.
- Children 2 to 4 years old who have had asthma or wheezing in the past 12 months.

If you have an egg allergy you can still get a flu vaccine.

These measures also help prevent the flu and limit its spread:

- **Wash your hands often.** If available, use soap and water, washing for at least 20 seconds. Or use an alcohol-based hand sanitizer that has at least 60% alcohol.
- **Cover your coughs and sneezes.** Cough or sneeze into a tissue or your elbow. Then wash your hands.
- **Avoid touching your face.** Avoid touching your eyes, nose and mouth.
- **Clean and disinfect surfaces.** Regularly clean often-touched surfaces to prevent spread of infection from a surface with the virus on it to your body.
- **Avoid contact with the virus.** Try to avoid people who are sick or have symptoms of flu. And if you have symptoms, stay home if you can. When flu is spreading, consider keeping distance between yourself and others while indoors, especially in areas with poor air flow. If you're at high risk of



complications from the flu consider avoiding swine barns at seasonal fairs and elsewhere.

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