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Patient information: Influenza symptoms and treatment (Beyond the Basics)**Author**

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Literature review current through: Sep 2014. | **This topic last updated:** Jan 28, 2014.

INTRODUCTION — Influenza (commonly called the flu) is a highly contagious illness that can occur in children or adults of any age. It occurs more often in the winter months because people spend more time in close contact with one another. The flu is spread easily from person-to-person by coughing, sneezing, or touching surfaces.

Every year, complications of the flu require more than 200,000 people in the United States to be hospitalized. Serious illness is more likely in the very young, older adults, pregnant women, and people who have certain health problems such as asthma or other forms of lung disease.

There have been several widespread flu outbreaks (called pandemics), which led to the deaths of many people worldwide. These outbreaks occurred when new strains of influenza viruses formed (often from pigs or birds) and humans became infected because they had no immunity to these viruses.

This article discusses the symptoms and treatment of seasonal, swine H1N1, and avian flu. Treatments to prevent the flu, including the flu shot, are discussed separately. (See "[Patient information: Influenza prevention \(Beyond the Basics\)](#)".)

FLU SYMPTOMS — Symptoms of seasonal flu can vary from person to person, but usually include:

- Fever (temperature higher than 100°F or 37.8°C)
- Headache and muscle aches
- Fatigue
- Cough and sore throat may also be present

People with the flu usually have a fever for two to five days. This is different than fever caused by other upper respiratory viruses, which usually resolve after 24 to 48 hours.

Most people with the flu have fever and muscle aches, and some people also have cold-like symptoms (runny nose, sore throat). Flu symptoms usually improve over two to five days, although the illness may last for a week or more. Weakness and fatigue may persist for several weeks ([table 1](#)).

Flu complications — Complications of influenza occur in some people; pneumonia is the most common complication.

Pneumonia is a serious infection of the lungs, and is more likely to occur in young children, people over the age of 65, people who live in long term care facilities (nursing homes), and those with other illnesses such as diabetes or conditions affecting the heart or lungs. Pneumonia is also more common in people with weakened immune systems, such as those who have had a transplant. (See "[Patient information: Pneumonia in adults \(Beyond the Basics\)](#)".)

FLU DIAGNOSIS — Influenza is usually diagnosed based on symptoms (fever, cough and muscle aches). Lab testing for influenza is performed in certain cases, such as during a new influenza outbreak in a community and in patients who are at increased risk for complications.

FLU TREATMENT

When to seek help — Most people with the flu recover within one to two weeks without treatment. However, serious complications of the flu can occur. Call your doctor or nurse immediately if:

- You feel short of breath or have trouble breathing
- You have pain or pressure in your chest or stomach
- You have signs of being dehydrated, such as dizziness when standing or not passing urine
- You feel confused
- You cannot stop vomiting or you cannot drink enough fluids

In children, you should seek help if the child has any of the above or if the child:

- Has blue or purplish skin color
- Is so irritable that he or she does not want to be held
- Does not have tears when crying (in infants)
- Has a fever with a rash
- Does not wake up easily

There are several groups of people who are at increased risk for flu complications. These include pregnant women, young children (<5 years of age, and especially <2 years of age), people ≥65 years of age, and people with certain diseases such as chronic lung disease (such as asthma), heart disease, diabetes, immunosuppressing conditions (such as HIV infection or transplantation), and some other diseases. If you or your child has flu symptoms and is at increased risk for flu complications, you should call your healthcare provider.

Treat symptoms — Treating the symptoms of influenza can help you to feel better, but will not make the flu go away faster.

- Rest until the flu is fully resolved, especially if the illness has been severe
- Fluids — Drink enough fluids so that you do not become dehydrated. One way to judge if you are drinking enough is to look at the color of your urine. Normally, urine should be light yellow to nearly colorless. If you are drinking enough, you should pass urine every three to five hours.
- [Acetaminophen](#) (such as Tylenol® and other brands) can relieve fever, headache, and muscle aches. [Aspirin](#), and medicines that include aspirin (eg, bismuth subsalicylate; PeptoBismol), are not recommended for children under 18 because aspirin can lead to a serious disease called Reye syndrome.
- Cough medicines are not usually helpful; cough usually resolves without treatment. We do not recommend cough or cold medicine for children under age six years. (See "[Patient information: The common cold in children \(Beyond the Basics\)](#)".)

Antiviral treatment — Antiviral medicines can be used to treat or prevent influenza. When used as a treatment, the medicine does not eliminate flu symptoms, although it can reduce the severity and duration of symptoms by about one day. Not every person with influenza needs an antiviral medicine, but some people do; the decision is based upon several factors. If you are severely ill and/or have risk factors for developing complications of influenza, you will need an antiviral agent. People who are only mildly ill and have no risk factors for complications are usually treated with an antiviral medicine if they have had symptoms for 48 hours or less, but they are not treated if they have had symptoms for more than 48 hours.

Antiviral medicines that are used to treat or prevent the flu include [oseltamivir](#) (Tamiflu®) and [zanamivir](#) (Relenza®). Two other antiviral medicines, [rimantadine](#) (Flumadine®) and [amantadine](#) (Symmetrel®), were used in the past but are generally no longer effective because most flu viruses are now resistant to them. Antiviral treatment is most effective for seasonal influenza when it is taken within the first 48 hours of flu symptoms.

The best antiviral medicine depends upon the type of influenza virus, if the virus could be resistant, and some individual factors. A doctor or nurse should make this decision. (See "[Prevention of seasonal influenza with antiviral drugs in adults](#)" and "[Treatment of seasonal influenza in adults](#)" and "[Seasonal influenza in children: Prevention and treatment with antiviral drugs](#)" and "[Treatment and prevention of pandemic H1N1 influenza \('swine influenza'\)](#)".)

Side effects — [Zanamivir](#) and [oseltamivir](#) can cause mild side effects, including nausea and vomiting; zanamivir, which is inhaled, can cause difficulty breathing in some cases. Most people are able to continue the medicine despite the side effects.

Antibiotics — Antibiotics are **NOT** useful for treating viral illnesses such as influenza. Antibiotics should only be used if there is a bacterial complication of the flu such as bacterial pneumonia, ear infection, or sinusitis. Antibiotics can cause side effects and lead to development of antibiotic resistance.

Complementary and alternative treatments — There are a wide variety of herbal, homeopathic, and other complementary and alternative treatments that are marketed for influenza. Unfortunately, there have been few well designed studies to evaluate their efficacy and safety.

PREVENTING FLU — Treatments to prevent influenza are discussed separately. (See "[Patient information: Influenza prevention \(Beyond the Basics\)](#)".)

SWINE H1N1 FLU — A new strain of H1N1 influenza, which contains parts of swine, avian, and human influenza viruses, was first seen in humans in March 2009 in Mexico. Human infections subsequently occurred around the world and caused a pandemic that continued until August 2010. (See "[Epidemiology of pandemic H1N1 influenza \('swine influenza'\)](#)".)

Symptoms of infection with the swine H1N1 flu virus and treatment for it were generally similar to those of seasonal flu.

AVIAN FLU — Avian influenza (bird flu) is caused by a strain of influenza virus that originally infected birds. Infected birds include chickens, ducks, and geese, among others.

There are several strains of avian flu; the H5N1 avian flu virus is the cause of concern since it has led to several deaths, mostly in Asia. To date, avian flu has primarily spread from bird-to-bird, and much less commonly from bird-to-human; human-to-human transmission has occurred rarely. Most humans who became infected with avian flu had direct contact with sick or dead poultry or wild birds, or had very recently visited a live poultry market. No human cases of avian influenza have been described in the United States or elsewhere in North America.

Avian flu is frequently severe, and there is little natural immunity in the human population. At least one antiviral medicine ([oseltamivir](#)) might improve the chance of surviving the infection. (See '[Antiviral treatment](#)' above.)

There is a vaccine to prevent avian flu. The vaccine is not commercially available, but has been stockpiled by the United States government in case it is needed in the future.

Updated information about avian influenza is available from the United States Centers for Disease Control and Prevention (www.cdc.gov/flu/avian/).

WHERE TO GET MORE INFORMATION — Your healthcare provider is the best source of information for questions and concerns related to your medical problem.

This article will be updated as needed on our web site (www.uptodate.com/patients). Related topics for patients, as well as selected articles written for healthcare professionals, are also available. Some of the most relevant are listed below.

Patient level information — UpToDate offers two types of patient education materials.

The Basics — The Basics patient education pieces answer the four or five key questions a patient might have about a given condition. These articles are best for patients who want a general overview and who prefer short, easy-to-read materials.

[Patient information: Flu \(The Basics\)](#)

[Patient information: Meningitis in children \(The Basics\)](#)

[Patient information: Acute bronchitis \(The Basics\)](#)

[Patient information: Swollen neck nodes in children \(The Basics\)](#)

[Patient information: Severe Acute Respiratory Syndrome \(SARS\) \(The Basics\)](#)

[Patient information: Bird flu \(avian influenza\) \(The Basics\)](#)

[Patient information: When to worry about a fever \(The Basics\)](#)

Beyond the Basics — Beyond the Basics patient education pieces are longer, more sophisticated, and more detailed. These articles are best for patients who want in-depth information and are comfortable with some medical jargon.

[Patient information: Influenza prevention \(Beyond the Basics\)](#)

[Patient information: Pneumonia in adults \(Beyond the Basics\)](#)

[Patient information: The common cold in children \(Beyond the Basics\)](#)

Professional level information — Professional level articles are designed to keep doctors and other health professionals up-to-date on the latest medical findings. These articles are thorough, long, and complex, and they contain multiple references to the research on which they are based. Professional level articles are best for people who are comfortable with a lot of medical terminology and who want to read the same materials their doctors are reading.

[Clinical manifestations and diagnosis of avian influenza](#)

[Clinical manifestations of seasonal influenza in adults](#)

[Diagnosis of seasonal influenza in adults](#)

[Epidemiology of influenza](#)

[Epidemiology, transmission, and pathogenesis of avian influenza](#)

[Pharmacology of antiviral drugs for influenza](#)

[Prevention of seasonal influenza with antiviral drugs in adults](#)

[Seasonal influenza vaccination in adults](#)

[Treatment and prevention of avian influenza](#)

[Treatment of seasonal influenza in adults](#)

[Epidemiology of pandemic H1N1 influenza \('swine influenza'\)](#)

[Treatment and prevention of pandemic H1N1 influenza \('swine influenza'\)](#)

[Seasonal influenza in children: Prevention and treatment with antiviral drugs](#)

The following organizations also provide reliable health information.

- National Library of Medicine

(www.nlm.nih.gov/medlineplus/flu.html)

- National Institute of Allergy and Infectious Diseases

(www3.niaid.nih.gov/topics/Flu/)

- Centers for Disease Control and Prevention (CDC)

(<http://www.cdc.gov/flu/>)

[1]

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REFERENCES

1. Fiore AE, Fry A, Shay D, et al. Antiviral agents for the treatment and chemoprophylaxis of influenza --- recommendations of the Advisory Committee on Immunization Practices (ACIP). MMWR Recomm Rep 2011; 60:1.

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GRAPHICS

Is it a cold or the flu?

	Cold	Flu
Symptoms		
Fever	Rare	Usual; high (100°F to 102°F; occasionally higher, especially in young children); lasts 3 to 4 days
Headache	Rare	Common
General aches, pains	Slight	Usual; often severe
Fatigue, weakness	Sometimes	Usual; can last up to 2 to 3 weeks
Extreme exhaustion	Never	Usual; at the beginning of the illness
Stuffy nose	Common	Sometimes
Sneezing	Usual	Sometimes
Sore throat	Common	Sometimes
Chest discomfort, cough	Mild to moderate; hacking cough	Common; can become severe

Reproduced from: National Institutes of Health. (<http://www.niaid.nih.gov/publications/cold/sick.pdf>).

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