

MEDfacts

An Educational Health Series From National Jewish Health®



Seasonal Influenza and the Flu Vaccine

What is influenza (flu)?

Influenza, also known as the “flu,” is an infection of the respiratory system that is caused by the influenza virus. Influenza season may begin in October and peaks between late December and March, although this can vary each year. The flu is responsible for many hospitalizations and deaths every year in the United States.

How is the flu spread?

Influenza is spread when a person who has the flu coughs, sneezes and talks. The influenza virus is then in the air and can land in the mouth and nose of others around them who may develop the flu. The influenza virus may also survive on surfaces and be transferred when a person touches the surface, then touches their mouth, eyes and nose. Influenza is often contagious before a person has symptoms.

How can you prevent the spread of the flu?

The best way to prevent the spread of the flu is getting the flu vaccine each year. In addition, other means of preventing the spread of the flu include the following:

- Cover your nose and mouth with a tissue when you cough or sneeze. Throw the tissues in the trash after you use them.
- Wash your hands often with soap and water, especially after you cough or sneeze. Alcohol-based hand cleaners are also effective.
- Avoid touching your eyes, nose or mouth. Germs spread this way.
- Try to avoid close contact with sick people.
- Stay home if you are sick. This is to keep from infecting others and spreading the virus further.
- In special cases, antiviral medications are used to prevent the spread of influenza.

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What are the symptoms of the flu?

Symptoms of the flu typically begin very quickly. Symptoms often include muscle aches, feeling very tired, fever with chills, headache, cough and a sore throat. In addition, children may also have a high fever, diarrhea, vomiting and seizures. Most people recover from the flu in 1 – 2 weeks. However, some people, especially the very young and the elderly, can have flu-related complications that can be serious.

What are the complications of the flu?

In some people, the flu can lead to serious complications. Some people develop influenza pneumonia or a secondary bacterial pneumonia. People with asthma and other chronic lung diseases may have worsening of respiratory symptoms that require stronger treatment. They also have a higher risk of developing pneumonia from influenza. Myocarditis and pericarditis, which affect the heart, have also been linked to the flu. Other rare complications include Reye's syndrome, myositis and Guillain-Barre syndrome.

How can you protect others after someone becomes infected?

Flu is spread through infectious droplets that are transmitted from person-to-person or to environmental surfaces when a person with flu coughs or sneezes. If someone in the family has flu, that person should make sure to cover their cough, and, if possible, rest in a separate room.

Other persons in the family should:

- Practice good hand hygiene,
- Wash hands frequently,
- Avoid touching the face, which is the easiest way for germs to enter the body,
- Avoid sharing utensils, dish and glassware, or other common items that might become contaminated with flu and lead to transmission from hands to the face, eyes, nose and mouth,
- Thoroughly clean all services and common areas in the home,
- Wipe down counters, tables, remote controls, telephones, etc.
- Keep hand sanitizer close and use it often. Tell children and those around you to do the same and
- With a family avoidance can be difficult, but try to stay three to six feet away from the person who is sick whenever possible.
- A doctor might prescribe an antiviral (oseltamivir/Tamiflu) to treat the person with flu and prevent them from spreading it to others.
- If other family members are at high risk for complications of the flu, they should see their doctor for prophylactic antiviral therapy. Of course, everyone in the family should be vaccinated.

How does the flu vaccine work?

Fortunately, the flu vaccine can prevent many of the illnesses and deaths associated with the flu. The flu vaccine contains either killed or weakened (attenuated) influenza viruses that cause your immune system to develop antibodies. It takes two weeks to build an adequate level of antibodies to protect against the flu. When you are exposed

to the flu, these antibodies then fight off the flu viruses. While the vaccine does not always prevent the flu, the vaccine reduces the risk of complications and the severity of the illness.

Who should get the flu vaccine?

Everyone 6 months and older should get the flu vaccine every year. People in the following groups should receive the highest priority for vaccination if vaccine supply is limited:

- Children aged 6 months through 4 years,
- Adults 50 and older,
- Nursing home and long-term care residents,
- People with chronic respiratory diseases such as asthma, COPD (emphysema, chronic bronchitis), cystic fibrosis or bronchiectasis, or chronic cardiovascular (except hypertension), renal, hepatic, neurologic, hematologic, or metabolic (including diabetes) disorders,
- People who have a weakened immune system,
- Children and teens aged 6 months through 18 years of age on long-term aspirin therapy,
- People who are morbidly obese,
- Women who are pregnant or will be pregnant during the flu season,
- American Indians/Alaska Natives,
- Household members of people in high risk groups and
- Health care providers.

The vaccine is safe for children six months of age and older.

When is the flu vaccine given?

Each year the flu vaccine is developed with the three main strains of influenza virus. These strains have been identified as the potential cause for the illness in the upcoming year. The flu vaccine must be given every year for protection against the flu. The flu vaccine can be given as soon as it becomes available each fall. It can be given throughout the flu season.

What types of flu vaccines are available this year?

There are two types of flu vaccines available. One is inactivated influenza vaccine or the standard "flu shot" that contains killed influenza viruses. The other is a live, intranasal influenza vaccine.

Inactivated influenza vaccine - There are three different flu shots available. They include:

- The regular seasonal flu shot. This flu shot has been given for many years and is approved for infants aged 6 months and older, children, teens and adults. It is the preferred vaccine for people who have chronic illness, a weakened immune system, health care providers and pregnant women.
- A high dose flu shot is available for people 65 years and older. This was first used in the 2010-2011 season.

Live, intranasal influenza vaccine - The nasal spray contains live, but weakened (attenuated) viruses. National Jewish Health does not administer the intranasal flu vaccine.

What are common side effects of the flu vaccine?

The flu vaccine is safe for almost everyone. Because the vaccine is made from killed or weakened viruses, a person cannot “get” the flu from the vaccine. Some people experience a few minor side effects from the flu shot. These can include: swelling, redness or soreness at the area of the shot, muscle aches and a low-grade fever for a few days.

Severe side effects are rare, but include an allergic reaction which may occur several minutes to a few hours after the flu shot.

When the swine flu vaccine was given in 1976, more serious side effects, such as Guillain-Barre Syndrome, were reported. There has been no increased incidence of Guillain-Barre Syndrome since that time.

There has been some concern about reactions to Thimerasol, the preservative in the multi-dose vial flu shot. It is used at a very small amount and has not been shown to be a problem. However, if you are concerned about Thimerasol, you can check with your doctor about a “preservative free” flu vaccine. This is usually a single-dose vaccine.

Who should check with the doctor before getting the flu vaccine?

There are certain groups of people who should check with their doctor before getting a flu vaccine. These include:

- People who have had an allergic reaction to a flu shot in the past,
- People who have an allergy to eggs and have never had a flu vaccine and
- People who developed Guillain-Barre Syndrome 6 weeks after getting a flu shot.

What if a person is allergic to eggs?

The flu vaccine is grown on egg protein. In the past, the flu vaccine has been given following a protocol in smaller doses under observation. Research has shown this is not necessary in many cases. Based on research there are new recommendations for people who have a history of egg allergy. If a person has an egg allergy and is able to eat eggs, the person can receive the flu vaccine. If the person has an egg allergy and develops hives the person can receive the flu vaccine, but is observed closely for 30 minutes. If the person has an egg allergy and develops other symptoms referral to an allergist may be recommended. The person can still receive the flu vaccine, but is observed closely for 30 minutes.

What if someone still gets the flu?

Treatment with antiviral medicine is available when someone gets the flu. These medicines help lessen the symptoms and the length of time a person is ill. Antiviral medicine must be started within the first two days after symptoms begin. These medicines include:

- Tamiflu® (oseltamivir), - available as a pill or liquid that is swallowed
- Relenza® (zanamivir), - available as a powder that is inhaled for people without lung problems

Please discuss any questions you have about the flu vaccine with your health care provider. The Center for Diseases Control and Prevention (CDC) has helpful Vaccine Information Statements (VIS) at www.cdc.gov/vaccines.

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