



[U.S. Food and Drug Administration](#)

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By Linda Bren

Fighting the Flu

If you haven't gotten your flu shot yet, go get it. January is not too late to get a flu shot. "Those getting vaccinated at any time will be better protected against the influenza (flu) virus," says Roland A. Levandowski, MD, a virologist in the Food and Drug Administration's Center for Biologics Evaluation and Research (CBER).

Delays in distribution of the vaccine to health-care providers have prevented some people from getting their shots in October and November--the usual time for vaccination. But the vaccine can be used in January and later with good effectiveness since the flu season lasts through March, says Levandowski.

Studies have shown the vaccine's effectiveness rate to be 70 to 90 percent in healthy young adults. In the elderly and in people with certain chronic illnesses, the vaccine sometimes doesn't prevent illness altogether, but does reduce its severity and the risk of serious complications and death.

The vaccine's most common side effect is soreness at the vaccination site for up to two days. Some people may experience post-shot fever, sore muscles and other symptoms resembling the flu that can last for one to two days. But the flu vaccine cannot actually cause flu because it contains only inactivated viruses.

The Centers for Disease Control and Prevention (CDC) and the Advisory Committee on Immunization Practices strongly recommend vaccination for the following high-risk groups and their close contacts and health-care workers:

- Adults and children who have chronic disorders of the pulmonary or cardiovascular systems, including asthma;
- Persons aged 65 years and older;
- Residents of nursing homes and other facilities that provide care for chronically ill persons;
- Adults and children who have certain underlying medical conditions that required hospitalization or regular doctor visits during the past year because of chronic disease including

heart, lung or kidney disease, diabetes, asthma, anemia, or immunosuppression (for example, caused by medications or HIV infection);

- Children and teenagers (aged 6 months to 18 years) who must take aspirin regularly and therefore might be at risk for developing Reye syndrome if they get the flu; and
- Women who will be in the second or third trimester of pregnancy during the influenza season. (Pregnant women who have a high-risk condition should be immunized regardless of the stage of pregnancy.)

Some people--but not many--should avoid the flu shot. People who have had an allergic reaction to eggs or to a previous dose of influenza vaccine should consult a doctor before getting a flu shot if they plan to get the shot at a place other than their physician's office. And those with a high fever should not receive the vaccine until they feel better.

Flu Facts

Influenza, commonly called the flu, is an infection of the respiratory tract caused by the influenza virus. Signs of the flu include sudden onset of headache, chills, and feeling generally miserable. Respiratory symptoms like nasal congestion, cough and sore throat appear, and the flu sufferer often experiences extreme fatigue and muscle aches in the back and legs. Fever between 100 and 103 degrees Fahrenheit is typical in adults, and is often even higher in children.

Scientists have classified influenza viruses as types A, B and C. Type A is the most common and leads to the most serious epidemics. Type B can cause epidemics, but usually produces a milder disease than type A. Type C viruses have usually been associated with symptoms suggesting a common cold.

Influenza rarely causes stomach upset; however, young children may have nausea and vomiting during the most severe phase of the flu. What is popularly called "stomach flu" is usually another malady: gastroenteritis. Bacteria, toxins, or viruses other than influenza are the usual causes of gastroenteritis.

Serious illnesses like strep throat, measles, and chickenpox sometimes have flu-like symptoms. It's important to see a doctor if symptoms persist, become severe or localized in the throat, stomach or lungs, or if other symptoms such as skin rash, vomiting or behavioral changes occur.

Influenza and other respiratory viruses can be transmitted in one of two ways: by inhaling infectious particles in the air (like respiratory secretions from a cough or sneeze), or by touching respiratory secretions, usually on the skin, of an already-infected person and then touching one's eyes or nose. Shaking hands, for example, with an infected person, or touching environmental surfaces (like doorknobs or handrails) that have been contaminated with flu virus particles and then touching your eyes or nose may transmit the virus.

"In addition to getting vaccinated, the single most important step people can take to help prevent getting the flu is to wash their hands," says Linda Lambert, PhD, influenza program officer with the National Institute of Allergy and Infectious Diseases. Hand washing is especially important after

interacting with children, according to Lambert, since children are very susceptible to flu and are the primary spreaders of the virus in the community. Lambert also recommends disinfecting environmental surfaces in the home when someone is sick with the flu since the virus can live for several hours on these surfaces. Using virus-killing disinfectant on telephones, doorknobs, and computer keyboards, for example, can help prevent transmission to other family members. "And if you have the flu," says Lambert, "always use disposable tissues when coughing or sneezing and throw away the tissue immediately to help prevent infectious particles from spreading to someone else."

Other Flu Fighters

While the FDA-licensed vaccination is the chief method of preventing infection, one prescription medication, Tamiflu, can help prevent influenza types A and B.

FDA first approved Tamiflu (oseltamivir phosphate), a capsule, in 1999 to help lessen flu symptoms and duration in adults. Then in November 2000 the agency approved Tamiflu as an influenza prophylaxis (preventive) in adults and adolescents 13 years and older. To be effective in preventing influenza infection, the drug must be taken when a person is first exposed to others suffering from the flu. If someone in the home gets the flu, other family members can possibly avoid getting it by taking Tamiflu daily for at least seven days. The drug can be taken for up to six weeks by a person exposed to the flu because of an outbreak in the community.

Relenza (zanamivir), an inhaled powder, approved in 1999 for adults and children aged seven years and older, can also reduce the length and severity of the flu. Like Tamiflu, Relenza must be taken within the first two days after symptoms begin.

Relenza's labeling has been updated recently to emphasize the possibility of bronchospasm (wheezing) or serious breathing problems in some patients taking the drug. Because of the risk of these side effects, Relenza is not generally recommended for people with chronic respiratory disease, such as asthma, nor for those with chronic obstructive pulmonary disease. These conditions should be discussed with a health-care provider before taking the drug.

Two other drugs, Symmetrel (amantadine) and Flumadine (rimantadine), available in tablets or syrup, are approved to prevent and treat the symptoms of influenza A virus only. Symmetrel, approved in 1968, can be used to help prevent and treat influenza A virus in both adults and children. Flumadine, approved in 1993, can be used to prevent and treat influenza A virus in adults, and to prevent (but not to treat the symptoms of) influenza A virus in children. Both Symmetrel and Flumadine have the potential for causing serious central nervous system side effects. Although these drugs may be used by otherwise healthy people to prevent and treat influenza A virus infections, both are usually reserved for use in more closely monitored situations, such as in nursing homes.

Treating Yourself

Flu sufferers should drink fluids, try to eat, and get plenty of rest, says Lambert. Your body is trying to attack the virus, and it takes energy to do that.

While fluids, nutrients, and rest are important elements to curing the flu, over-the-counter medications can help relieve some of the symptoms. "OTC cough-cold products can make you more comfortable," says Debbie Lumpkins, a microbiologist with FDA's division of over-the-counter drug products. "They are intended to treat the symptoms of minor conditions, not to treat the underlying illness."

There are many cough-cold products on the market that contain a variety of ingredients. It's important to check the ingredients listed on the label, says FDA, to make sure that the product does not contain phenylpropanolamine because researchers have found an association between phenylpropanolamine and hemorrhagic stroke. Although the risk of stroke is low, FDA believes that the conditions for which these products are used do not appear to warrant the risk for using this drug. (See [article about the public health advisory](#) on this ingredient in this issue.)

Children and teenagers with symptoms of flu or chickenpox should not take aspirin or products containing aspirin or other salicylates. Use of these products in young flu and chickenpox sufferers has been associated with Reye syndrome, a rare condition that can be fatal. Be sure to check the label of a product to make sure it doesn't contain aspirin or other salicylates.

"In the future, consumers may have alternatives to the flu shot," says Lambert, "including needle-free vaccinations such as a nasal spray or a skin patch." Major pharmaceutical companies, in cooperation with scientists representing the National Institutes of Health, FDA's CBER, and academia, are continuing to investigate ways to make even more protective vaccines.

For further information on the flu and the influenza vaccine, see CBER's Web site at www.fda.gov/cber/flu/flu2000.htm.

Where to Get a Flu Shot

For individuals who are searching for a place to obtain an influenza vaccination, the Centers for Disease Control and Prevention (CDC) suggest the following:

- Contact your personal health-care provider.
- Call your local public health clinic or state health department immunization program. Most state health departments are listed on CDC's Web site at www.cdc.gov/nip/flu/default.htm. Or call the toll-free National Immunization Hotline at 1-800-232-2522 (English) or 1-800-232-0233 (Spanish).
- Check media outlets such as newspapers, radio stations, or other public information sources for specific clinics in your community.
- Check with your county medical society.