

Seasonal Flu Vaccines

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What is a flu vaccine?

Influenza (flu) vaccines (often called “flu shots”) are vaccines that protect against the four influenza viruses that research indicates most common during the upcoming season. Most flu vaccines are “flu shots” given with a needle, usually in the arm, but there also is also a nasal spray flu vaccine.

[The composition of flu vaccines has been updated for the 2021-2022 flu season.](#)

Is there more than one type of flu shot available?

Yes. There are different flu vaccine manufacturers and multiple influenza vaccine products licensed and recommended for use in the United States.

CDC recommends use of any licensed, age-appropriate influenza vaccine during the 2021-2022 influenza season. Available influenza vaccines include quadrivalent inactivated influenza vaccine [IIV4], recombinant influenza vaccine [RIV4], or [live attenuated influenza vaccine \(LAIV4\)](#). No preference is expressed for any influenza vaccine over another.

Quadrivalent flu vaccines include:

- Standard-dose [quadrivalent influenza shots](#) that are manufactured using virus grown in eggs. These include Afluria Quadrivalent, Fluarix Quadrivalent, FluLaval Quadrivalent, and Fluzone Quadrivalent. Different influenza shots are licensed for different age groups. These four vaccines are approved for people 6 months of age and older. Most influenza shots are given in an arm muscle with a needle. One quadrivalent influenza shot (Afluria Quadrivalent) can be given either with a needle (for people aged 6 months and older) or with a jet injector (for people aged 18 through 64 years only).
- A [quadrivalent cell-based influenza shot](#) (Flucelvax Quadrivalent) containing virus grown in cell culture, which is licensed for people 6 months and older. This vaccine is egg-free.

- [Recombinant quadrivalent influenza shot](#) (Flublok Quadrivalent), an egg-free vaccine, approved for people 18 years and older.
- A [quadrivalent flu shot using an adjuvant](#) (an ingredient that helps create a stronger immune response), Flud Quadrivalent, approved for people 65 years of age and older.
- A [quadrivalent high-dose influenza vaccine](#) Fluzone High-Dose, which contains a higher dose of antigen to help create a stronger immune response, licensed for people 65 years and older.
- A [live attenuated influenza vaccine](#) (FluMist Quadrivalent), which is given intranasally. This vaccine is approved for people 2 through 49 years of age. Live attenuated influenza vaccine should not be given to people who are pregnant, immunocompromised persons, and some other groups.
- There are [many flu vaccine options](#) to choose from, but the most important thing is for all people 6 months and older to get a flu vaccine every year. If you have questions about which vaccine is best for you, talk to your doctor or other health care professional. More information on approved flu vaccines for the 2021-2022 flu season, and age indications for each vaccine are available in CDC's [Table: U.S. Influenza Vaccine Products for the 2021-2022 Season](#).

Who should and who should not get a flu vaccine?

Everyone 6 months of age and older should get an influenza (flu) vaccine every season with rare exception. CDC's Advisory Committee on Immunization Practices has made this recommendation since the 2010-2011 flu season.

Vaccination to prevent flu and its potentially serious complications is particularly important for people who are at higher risk of developing serious flu complications. See [People at Higher Risk of Developing Flu-Related Complications](#) for a full list of age and health factors that confer increased risk.

More information is available at [Who Needs a Flu Vaccine](#).

Different influenza (flu) vaccines are approved for use in people in different age groups. In addition, some vaccines are not recommended for certain

groups of people. Factors that can determine a person's suitability for vaccination, or vaccination with a particular vaccine, include a person's age, health (current and past) and any allergies to flu vaccine or its components. For more information, visit [Who Should and Who Should NOT get a Flu Vaccine](#).

How effective is the seasonal flu shot?

Influenza (flu) vaccine effectiveness (VE) can vary. The protection provided by a flu vaccine varies from season to season and depends in part on the age and health status of the person getting the vaccine and the similarity or "match" between the viruses in the vaccine and those in circulation. During years when the flu vaccine match is good, it is possible to measure substantial benefits from flu vaccination in terms of preventing flu illness and complications. However, the benefits of flu vaccination will still vary, depending on characteristics of the person being vaccinated (for example, their health and age), what influenza viruses are circulating that season and, potentially, which type of flu vaccine was used. For more information, see [Vaccine Effectiveness – How well does the Flu Vaccine Work](#). For information specific to this season, visit [About the Current Flu Season](#).

Vaccine Information Statements (VIS)

Flu VISs are no longer updated every year. The edition dated **8/15/2019** should be used for the current flu season.

VACCINE INFORMATION STATEMENT

Influenza (Flu) Vaccine (Inactivated or Recombinant): *What you need to know*

Many Vaccine Information Statements are available in Spanish and other languages. See www.immunize.org/vis

Hojas de información sobre vacunas están disponibles en español y en muchos otros idiomas. Visite www.immunize.org/vis

1 Why get vaccinated?

Influenza vaccine can prevent **influenza (flu)**.

Flu is a contagious disease that spreads around the United States every year, usually between October and May. Anyone can get the flu, but it is more dangerous for some people. Infants and young children, people 65 years of age and older, pregnant women, and people with certain health conditions or a weakened immune system are at greatest risk of flu complications.

Pneumonia, bronchitis, sinus infections and ear infections are examples of flu-related complications. If you have a medical condition, such as heart disease, cancer or diabetes, flu can make it worse.

Flu can cause fever and chills, sore throat, muscle aches, fatigue, cough, headache, and runny or stuffy nose. Some people may have vomiting and diarrhea, though this is more common in children than adults.

Each year **thousands of people in the United States die from flu**, and many more are hospitalized. Flu vaccine prevents millions of illnesses and flu-related visits to the doctor each year.

2 Influenza vaccine

CDC recommends everyone 6 months of age and older get vaccinated every flu season. **Children 6 months through 8 years of age** may need 2 doses during a single flu season. **Everyone else** needs only 1 dose each flu season.

It takes about 2 weeks for protection to develop after vaccination.

There are many flu viruses, and they are always changing. Each year a new flu vaccine is made to protect against three or four viruses that are likely to cause disease in the upcoming flu season. Even when the vaccine doesn't exactly match these viruses, it may still provide some protection.

Influenza vaccine **does not cause flu**.

Influenza vaccine may be given at the same time as other vaccines.

3 Talk with your health care provider

Tell your vaccine provider if the person getting the vaccine:

- Has had an **allergic reaction after a previous dose of influenza vaccine**, or has any **severe, life-threatening allergies**.
- Has ever had **Guillain-Barré Syndrome** (also called GBS).

In some cases, your health care provider may decide to postpone influenza vaccination to a future visit.

People with minor illnesses, such as a cold, may be vaccinated. People who are moderately or severely ill should usually wait until they recover before getting influenza vaccine.

Your health care provider can give you more information.



U.S. Department of
Health and Human Services
Centers for Disease
Control and Prevention

There are many reasons to get an influenza (flu) vaccine each year. Flu vaccination is the best way to protect yourself and your loved ones against flu and its potentially serious complications.

Below is a summary of the benefits of flu vaccination and selected scientific studies that support these benefits.

- **[Flu vaccination](#) can keep you from getting sick with flu.**
 - Flu vaccination prevents millions of illnesses and flu-related doctor's visits each year. For example, during [2019-2020](#) flu vaccination prevented an estimated 7.5 million influenza illnesses, 3.7 million influenza-associated medical visits, 105,000 influenza-associated hospitalizations, and 6,300 influenza-associated deaths.
 - During seasons when flu vaccine viruses are similar to circulating flu viruses, flu vaccine has been shown to reduce the risk of having to go to the doctor with flu by [40 percent to 60 percent](#).
- **Flu vaccination has been shown in several studies to reduce severity of illness in people who get vaccinated but still get sick.**
 - A [2021 study](#) showed that among adults, flu vaccination was associated with a 26% lower risk of ICU admission and a 31% lower risk of death from flu compared to those who were unvaccinated.
 - A [2018 study](#) showed that among adults hospitalized with flu, vaccinated patients were 59 percent less likely to be admitted to the ICU than those who had not been vaccinated. Among adults in the ICU with flu, vaccinated patients on average spent 4 fewer days in the hospital than those who were not vaccinated.
- **Flu vaccination can reduce the risk of flu-associated hospitalization.**
 - Flu vaccination prevents tens of thousands of hospitalizations each year. For example, during 2019-2020 flu vaccination prevented an estimated 105,000 flu-related hospitalizations.
 - A [2014 study](#) showed that flu vaccination reduced children's risk of flu-related pediatric intensive care unit (PICU) admission by 74

percent during flu seasons from 2010-2012. A 2017 study found that during 2009-2016, flu vaccines reduced the risk of flu-associated hospitalization among older adults by about 40 percent on average.

- A [2018 study](#) showed that from 2012 to 2015, flu vaccination among adults reduced the risk of being admitted to an intensive care unit (ICU) with flu by 82 percent.
- **Flu vaccination is an important preventive tool for people with certain chronic health conditions.**
 - Flu vaccination has been associated with [lower rates of some cardiac events](#) among people with heart disease, especially among those who have had a cardiac event in the past year.
 - Flu vaccination can reduce the risk of a flu-related worsening of chronic lung disease (for example, chronic obstructive pulmonary disease ([COPD](#)) requiring hospitalization.
 - Among people with [diabetes](#) and [chronic lung disease](#), flu vaccination also has been shown in separate studies to be associated with reduced hospitalizations from a worsening of their chronic condition.
- **Flu vaccination helps [protect pregnant people during and after pregnancy](#).**
 - Vaccination reduces the risk of flu-associated acute respiratory infection in pregnant people by about [one-half](#).
 - A [2018 study](#) showed that getting a flu shot reduced a pregnant person's risk of being hospitalized with flu by an average of 40 percent from 2010-2016.
 - A number of [studies](#) have shown that in addition to helping to protect pregnant people from flu, a flu vaccine given during pregnancy helps protect the baby from flu for several months after birth, when he or she is too young to be vaccinated.
- **Flu vaccine can be lifesaving in children.**
 - A 2017 [study](#) was the first of its kind to show that flu vaccination can significantly reduce a child's risk of dying from flu.

- **Getting vaccinated yourself may also protect people around you**, including those who are more vulnerable to serious flu illness, like babies and young children, older people, and people with certain chronic health conditions.

Despite the many benefits offered by flu vaccination, only about half of Americans get an annual flu vaccine and flu continues to cause millions of illnesses, hundreds of thousands of hospitalizations and tens of thousands of deaths. Many more people could be protected from flu if more people got vaccinated.

*References for the studies listed above can be found at [Publications on Influenza Vaccine Benefits](#). Also, see the [A Strong Defense Against Flu: Get Vaccinated](#) fact sheet.

What are the side effects that could occur?

Common side effects from a flu shot include soreness, redness, and/or swelling where the shot was given, headache (low grade), fever, nausea, muscle aches, and fatigue. The flu shot, like other injections, can occasionally cause fainting.

Can severe problems occur?

Life-threatening allergic reactions to flu shots are very rare. Signs of serious allergic reaction can include breathing problems, hoarseness or wheezing, hives, paleness, weakness, a fast heartbeat, or dizziness. If they do occur, it is usually within a few minutes to a few hours after receiving the shot. These reactions can occur among persons who are allergic to something that is in the vaccine, such as egg protein or other ingredients. While severe reactions are uncommon, you should let your doctor, nurse, clinic, or pharmacist know if you have a history of allergy or severe reaction to influenza vaccine or any part of flu vaccine.

There is a small possibility that flu vaccine could be associated with [Guillain-Barré syndrome](#), generally no more than 1 or 2 cases per million people vaccinated. This is much lower than the risk of severe complications from flu, which can be prevented by flu vaccine.

What should I do if I have had a serious reaction to seasonal flu vaccine?

Call a doctor or get to a doctor right away.

Tell your doctor what happened, the date and time it happened, and when you got the flu shot.

Ask your doctor, nurse, or health department to file a [Vaccine Adverse Event Reporting System](#) (VAERS) form, or call VAERS at 1-800-822-7967. Reports are welcome from all concerned individuals: patients, parents, health care providers, pharmacists and vaccine manufacturers.

Why do some people not feel well after getting a flu shot?

Flu vaccine side effects are generally mild and go away on their own within a few days. Some side effects that may occur from a flu shot include soreness, redness, and/or swelling where the shot was given, headache (low grade), fever, nausea, muscle aches, and fatigue. The flu shot, like other injections, can occasionally cause fainting.

What about people who get a seasonal flu vaccine and still get sick with flu symptoms?

There are several reasons why someone might get flu symptoms, even after they have been vaccinated against flu.

1. One reason is that some people can become ill from other respiratory viruses besides flu such as rhinoviruses, which are associated with the common cold. These viruses can cause symptoms similar to flu, and also spread and cause illness during flu season. Flu vaccines only protect against flu and its complications, not other illnesses.
2. Another explanation is that it is possible to be exposed to flu viruses, shortly before getting vaccinated or during the two-week period after vaccination that it takes the body to develop immune protection. This exposure may result in a person becoming sick with flu before protection from vaccination takes effect.
3. A third reason why some people may experience flu symptoms despite getting vaccinated is that they may have been exposed to a flu virus that is very different from the vaccine viruses. The ability of a flu vaccine to protect a person depends largely on the similarity or “match”

between the vaccine viruses chosen to make vaccine and those spreading and causing illness. There are many different flu viruses that spread and cause illness among people. For more information, see [Influenza \(Flu\) Viruses](#).

4. The final explanation for experiencing flu symptoms after vaccination is that flu vaccines [vary in how well they work](#) and some people who get vaccinated still get sick with flu. When that happens, though, vaccination has been shown in several studies to [reduce severity of illness](#) in those people who get vaccinated but still get sick.

What protection does a flu vaccine provide if I do get sick with flu?

Some people who get vaccinated may still get sick. However, flu vaccination has been shown in several studies to reduce severity of illness in people who get vaccinated but still get sick:

- A [2017 study](#) showed that flu vaccination reduced deaths, intensive care unit (ICU) admissions, ICU length of stay, and overall duration of hospitalization among hospitalized flu patients.
- [Another study in 2018](#) showed that a vaccinated adult who was hospitalized with flu was 59% less likely to be admitted to an intensive care unit (ICU) than someone who had not been vaccinated. Among adults in the ICU with flu, vaccinated patients on average spent 4 fewer days in the hospital than those who were not vaccinated.

In addition, it's important to remember that flu vaccine protects against three or four different viruses and multiple viruses usually circulate during any one season. For these reasons, CDC continues to recommend flu vaccination for everyone 6 months and older even if vaccine effectiveness against one or more viruses is reduced.

Special Consideration Regarding Egg Allergy

People with egg allergies can receive any licensed, recommended age-appropriate influenza vaccine (IIV4, RIV4, or LAIV4) that is otherwise appropriate. People who have a history of severe egg allergy (those who have had any symptom other than hives after exposure to egg) should be vaccinated in a medical setting, supervised by a health care provider who is able to recognize and manage severe allergic reactions. Two completely egg-

free (ovalbumin-free) flu vaccine options are available:
quadrivalent [recombinant vaccine](#) and quadrivalent [cell-based vaccine](#).
SOURCE: [Seasonal Flu Vaccines | CDC](#)

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Frequently Asked Questions

- What is influenza (the flu)?

Influenza (the flu) is more than a bad cold. It usually comes on suddenly. Signs and symptoms may include fever, headache, fatigue, muscle aches, coughing, and sore throat. It can lead to complications, such as pneumonia. Some complications can be life-threatening.

- Who is at risk of developing complications from the flu?

Certain people have an increased risk of developing flu complications. These include the following groups:

- Adults 65 years and older
 - Children younger than 5 years
 - People who have illnesses or conditions like asthma, heart disease, or cancer
 - Pregnant women
- How does being pregnant increase my risk of complications from the flu?

Normal changes in the immune system that occur during pregnancy may increase your risk of flu complications. You also have a higher risk of pregnancy complications, such as preterm labor and preterm birth, if you get the flu. You are more likely to be hospitalized if you get the flu while you are pregnant than when you are not pregnant. Your risk of dying from the flu is increased as well.

- Who should get vaccinated against the flu?

The Centers for Disease Control and Prevention (CDC) recommend that everyone 6 months of age and older—including pregnant women and women who are breastfeeding—get the flu vaccine each year. If you are pregnant, it is best to get the vaccine early in the flu season (October through May), as soon as the vaccine is available. You can get the shot at any time during your pregnancy. If you are not vaccinated early in the flu season, you still can get the vaccine later in the flu season. If you have a medical condition that further increases the risk of flu

complications, such as asthma or heart disease, you should think about getting the vaccine before the flu season starts.

- Which type of flu vaccine should I get?

There are two types of flu vaccines: 1) a shot and 2) a nasal mist. The flu shot contains a form of the flu virus that is inactivated. It cannot cause disease. The shot can be given to pregnant women at any time during pregnancy. A live, attenuated influenza vaccine is available as a nose spray. The nose spray vaccine is not recommended for pregnant women. However, it is safe for women after they have given birth, including those who are breastfeeding.

- How does the flu vaccine work?

The flu vaccine triggers your immune system to make antibodies against the flu virus. Antibodies circulate in the bloodstream. If they encounter a flu virus, they “tag” it for destruction by other parts of the immune system. It takes about 2 weeks for the body to build up protective antibodies after you get the flu shot.

- How often should I get the flu vaccine?

With some types of vaccines, the antibodies that are made remain active for many years. But the types of viruses that cause the flu can change every year. The antibodies made in response to one year’s flu vaccine may not work against the next year’s flu viruses. For this reason, the flu vaccine is updated each year. To be fully protected, you need to get the flu vaccine yearly.

- How does getting the flu vaccine when I am pregnant help my baby?

The flu vaccine does “double duty” by protecting both you and your baby. Babies cannot get the flu vaccine until they are 6 months old. When you get a flu shot during pregnancy, the protective antibodies made in your body are transferred to your baby. These antibodies will protect your baby against the flu until he or she can get the vaccine at 6 months of age.

- Are vaccines safe?

Vaccines are developed with the highest safety standards. The U.S. Food and Drug Administration approves all vaccines. The CDC continues to monitor all vaccines after they are approved. They have been used for many years in millions of pregnant women and are not known to cause pregnancy problems or birth defects.

- Can vaccines made with thimerosal cause autism?

There is no scientific evidence that vaccines made with thimerosal, a mercury-containing preservative, can cause autism or other health problems in babies. Thimerosal-containing vaccines do not cause autism in children born to women who received these vaccines. There is a flu vaccine made without thimerosal, but experts have not said that the thimerosal-free version is better for any particular group—including children and pregnant women.

- Do vaccines have any side effects?

Most side effects of vaccines are mild, such as a sore arm or a low fever, and go away within a day or two. Severe side effects and reactions are rare. The CDC keeps track of side effects and reactions to all vaccines given in the United States. When you receive a vaccine, you should receive a Vaccine Information Statement. This statement lists the possible side effects of and reactions to that vaccine. If you have concerns about vaccine side effects, talk to your obstetrician or other member of your health care team.

- What should I do if I get the flu while I am pregnant?

If you think you have the flu and you are pregnant (or you have had a baby within the past 2 weeks), contact your obstetrician or other health care professional right away. Taking an antiviral medication as soon as possible is recommended. Flu symptoms may include the following:

- Fever or feeling feverish
- Chills
- Body aches
- Headache
- Fatigue
- Cough or sore throat
- Runny or stuffy nose

Antiviral medication is available by prescription. It is most effective when taken within 48 hours of the onset of flu symptoms, but there still is some benefit to taking it up to 4–5 days after symptoms start. An antiviral drug does not cure the flu, but it can shorten how long it lasts and how severe it is. Even if you just think you have the flu, it is best to be on the safe side and contact your obstetrician or other member of your health care team.

- What should I do if I come into close contact with someone who has the flu while I am pregnant?

You also should call your obstetrician or other health care professional if you are pregnant and come in close contact with someone who has the flu. This includes living with, caring for, or talking face-to-face with someone who may have the flu.

You may be prescribed an antiviral drug to reduce the risk that you will get the flu.

- Glossary

Antibodies: Proteins in the blood produced in reaction to foreign substances, such as bacteria and viruses that cause infection.

Autism: A group of developmental disorders that range from mild to severe and that result in communication problems, problems interacting with others, behavioral difficulties, and repetitive behaviors.

Complications: Diseases or conditions that occur as a result of another disease or condition. An example is pneumonia that occurs as a result of the flu. A complication also can occur as a result of a condition, such as pregnancy. An example of a pregnancy complication is preterm labor.

Immune System: The body's natural defense system against foreign substances and invading organisms, such as bacteria that cause disease.

Influenza: An infection with the influenza virus that most commonly affects the respiratory tract. Symptoms include fever, headache, muscle aches, cough, nasal congestion, and extreme fatigue. Complications can occur in severe cases, such as pneumonia and bronchitis. There are a number of different influenza virus types, including A, B, and C, and different strains, including 18 H types and 11 N types (eg, H1N1 or "swine flu").

Live, Attenuated Influenza Vaccine: An influenza vaccine containing live viruses that have been altered to not cause disease. It is given as a nasal spray. It is not recommended for pregnant women.

Obstetrician: A physician who specializes in caring for women during pregnancy, labor, and the postpartum period.

Pneumonia: An infection of the lungs.

Preterm: Born before 37 weeks of pregnancy.

Thimerosal: A preservative used in some vaccines.

Virus: An agent that causes certain types of infections.

SOURCE: [The Flu Vaccine and Pregnancy | ACOG](#)
