

Q&A INFLUENZA: WHAT YOU SHOULD KNOW

Volume 16
Summer 2024

While people often consider “the flu” to be a minor inconvenience, the reality is that each year in the United States, influenza epidemics cause thousands to tens of thousands of deaths and about 200,000 hospitalizations. Even with a vaccine that is not as effective as some others, vaccination is the safest and most effective way to protect individuals, families and communities from the ravages of influenza. As such, most individuals 6 months of age and older can and should receive the influenza vaccine. Communities coming together to follow this recommendation have the potential to save thousands of lives.

Q. What is influenza (flu)?

A. Influenza (flu) is a virus that infects the nose, throat, windpipe and lungs. The virus is highly contagious and is spread from one person to another by coughing, sneezing or talking. Influenza infections typically occur between October and April each year.

Q. What are the symptoms of influenza?

A. Typical symptoms of influenza include fever, chills, muscle aches, congestion, cough, runny nose and difficulty breathing. Other viruses, including the one that causes COVID-19, can cause symptoms similar to influenza.

Influenza virus is a common cause of severe, fatal pneumonia, particularly in adults older than 65. Although most influenza-related deaths are in older adults, sadly, each year about 50 to 150 children also die from influenza. Children younger than 4 years of age often require hospitalization because of high fever, wheezing, croup or pneumonia.

Because influenza is a virus, it can't be successfully treated with antibiotics. While some antiviral medications are available by prescription, not all strains of influenza are susceptible to them, and they work best when used early in the infection.

Q. Who should get the influenza vaccine?

A. The influenza vaccine is recommended for virtually everyone 6 months of age and older. Children under 9 years of age require two doses of influenza vaccine separated by four weeks if they have never received an influenza vaccine or have an uncertain vaccination history.



Q. Does the influenza vaccine work?

A. The influenza vaccine typically prevents about 70 of every 100 people who receive it from developing moderate-to-severe influenza infection. Even though the vaccine might not completely prevent influenza infection, it will still lessen the length and severity of the illness.

Q. When should I get the influenza vaccine?

A. Immunizations should be administered starting in the fall as vaccine supplies become available. Likewise, vaccinations should continue throughout the season because the peak incidence of influenza can often occur as late as February or March.

Q. If I got the influenza vaccine last year, do I need this year's influenza vaccine?

A. Yes. Getting the current vaccine is still of benefit for a few reasons. First, some people are not protected after getting the vaccine, so another dose will increase their chance of being protected. Second, antibody levels wane, particularly in the elderly, so another dose will boost antibody levels before the start of influenza season. Finally, sometimes influenza viruses change significantly from one year to the next, so immunization or natural infection the previous year is not protective.

Q. Are influenza vaccines safe?

A. Yes. Influenza vaccine shots can cause pain, redness or tenderness at the site of injection as well as muscle aches and low-grade fever. Flu shots cannot cause influenza because they contain only parts of the virus (individual proteins) or dead (inactivated) viruses.

The nasal spray version can cause runny nose, congestion or sore throat. Although the viruses in the nasal spray version are live, they have been weakened, so they can reproduce in the nose but not in the lungs. Therefore, this version cannot cause influenza either.

Although most versions of influenza vaccine are made in eggs and some people are severely allergic to eggs, the quantity of egg proteins in the vaccine is less than that necessary to cause a severe allergic response. But just to be safe, people with severe egg allergies should remain at the provider's office for 30 minutes after vaccination.

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Q. How is the influenza vaccine made?

A. Several types of influenza vaccines are available:

Inactivated influenza vaccine – This version is made by taking three different influenza viruses, growing them (individually) in eggs, purifying them, and completely inactivating (killing) them with the chemical formaldehyde. This version, given as a shot, is used most commonly. It can be given to people 6 months and older.

Cell culture-based influenza vaccine – This version, given as a shot, is made in a manner similar to the inactivated vaccine; however, instead of growing the viruses in eggs (avian cells), they are grown in mammalian cells. This vaccine represents an advance in technology because it contains less egg protein than the version grown in eggs. It can be given to those 6 months and older.

Recombinant influenza vaccine – This version contains only one surface protein of influenza virus, known as hemagglutinin. The protein is produced by inserting the gene for hemagglutinin into an insect virus that then produces large quantities of the hemagglutinin protein. The protein is purified and used as the vaccine. This version represents an advance in technology because it is the first influenza vaccine that does not contain any egg protein. It is given as a shot and can be used in people 18 years or older.

Live, weakened influenza vaccine – Given as a nasal spray, this version contains live, weakened influenza viruses that can reproduce in the nose but not in the lungs. This vaccine can be given to people between 2 and 49 years of age. People with certain health conditions may not be able to get this vaccine. Talk to your doctor to learn more.

With the exception of the live, weakened influenza vaccine, some doses of each of the other types are referred to as “high-dose” versions. Adults 65 years and older are recommended to get a high-dose version whenever possible as the higher dose allows the aging immune system to develop stronger immunity, leading to more effective protection for this susceptible population. If high-dose versions are not available, these adults should get the type of vaccine that is available because regular doses will still offer some protection.

Did you know? For many years, influenza vaccines protected against four types of influenza. Two were type A influenza viruses (the kind that can cause pandemics), and two were type B influenza viruses. However, starting with 2024-2025 influenza vaccines, the vaccine will only protect against three types of influenza. This is because since early 2020, one of the types of influenza B virus has stopped spreading. It has not infected anyone around the globe, so we no longer need to protect ourselves against that type. While it is possible that another type B influenza virus will circulate in the future, causing a return to vaccines with four types of influenza, for now, we can decrease the number of types in the annual vaccine.

This information is provided by the Vaccine Education Center at Children's Hospital of Philadelphia. The Center is an educational resource for parents, the public and healthcare professionals and is composed of scientists, physicians, mothers and fathers devoted to the study and prevention of infectious diseases. The Vaccine Education Center is funded by endowed chairs from Children's Hospital of Philadelphia. The Center does not receive support from pharmaceutical companies. ©2024 Children's Hospital of Philadelphia. 24271-05-24.

Q. Can pregnant people get the influenza vaccine?

A. Yes. Pregnant people are urged to get influenza, Tdap and COVID-19 vaccines during pregnancy. Because pregnant people are more likely to experience complications and hospitalization as a result of infection with influenza (and COVID-19), it is important for them to be immunized.

In addition, studies have shown that babies of those immunized with influenza vaccine during pregnancy are less likely to be infected with influenza during the first six months of life before they are old enough to be vaccinated. Similar findings have followed COVID-19 vaccination. Tdap is given later during pregnancy so that newborns have protection against pertussis, which can be severe or fatal, in the months before they can get their own vaccines.

Q. Does the influenza vaccine contain thimerosal?

A. A limited number of multidose preparations of the inactivated influenza vaccine given as a shot still contain a small quantity of the mercury-based preservative known as thimerosal. However, the quantity contained in these vaccines does not cause harm. Influenza infections can cause severe illness and death, so the benefits of receiving the vaccine clearly outweigh the theoretical — and disproven — risks of thimerosal.

Q. Can I avoid getting influenza and the vaccine by washing my hands and staying away from others who are ill?

A. While careful handwashing, covering coughs and sneezes, and staying home when ill can help prevent the spread of disease, we cannot be certain that others will do the same. Further, not everyone infected with influenza realizes they are transmitting it since infected people begin to spread the virus a day or two before they have symptoms, similar to what happens with COVID-19.

So, while these measures can reduce your chance of getting influenza, they can only do so much to prevent it. The reality is that the only way to ensure protection from a specific disease is to have immunity acquired through immunization or previous infection, and vaccination is always the safer, better choice.