Q&A INFLUENZA: WHAT YOU SHOULD KNOW

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Although public health measures used to contain the spread of COVID-19 during the fall of 2020 also reduced the impact of influenza and other respiratory illnesses, the resumption of normal activities this year is expected to translate into a return of these common winter respiratory viruses. Typically, influenza epidemics cause thousands to tens of thousands of deaths and about 200,000 hospitalizations each year. Vaccination can protect individuals, families and communities from the ravages of influenza. This year, two additional factors will make influenza vaccination even more important. First, the lack of exposure to influenza last year means that immunity may have waned, making individuals more susceptible than usual. Second, the expected co-circulation of influenza and SARS-CoV-2, the virus that causes COVID-19, may cause extreme demands on the medical system. In areas where COVID-19 has already stressed resources, the addition of influenza patients may exacerbate these conditions. For these reasons, all individuals 6 months of age and older 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. In 2021, it is possible that influenza season may start earlier and be more severe given the lack of community exposures during 2020. Time will tell, but early evidence with other viruses, such as respiratory syncytial virus (RSV), are suggestive of this possibility.

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 more 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 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. This is of particular concern in 2021 since many people will not have been exposed to influenza in their communities during 2020 because of public health measures aimed at controlling COVID-19. Finally, sometimes influenza viruses change significantly from one year to the next, so immunization or natural infection the previous year is not protective.

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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, but because the vaccine viruses are completely inactivated or the vaccine contains only individual proteins, they cannot possibly cause influenza. 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.

Q. How is the influenza vaccine made?
A. Several types of influenza vaccines are available:

Quadrivalent inactivated influenza vaccine – This version is made by taking four different influenza viruses, growing them (individually) in eggs, purifying them and completely inactivating 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 quadrivalent 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 2 years 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 egg protein-free influenza vaccine. 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.

Q. Can pregnant women get the influenza vaccine?
A. Yes. Pregnant women are urged to get influenza and Tdap vaccines during pregnancy, and they may get COVID-19 vaccine as well.

Because pregnant women are more likely to experience complications and hospitalization as a result of infection with influenza, it is important for them to be immunized. In addition, studies have shown that babies of women 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.

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 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 influenza infections. 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.

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. *21149-07-21.*

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