

Influenza Vaccine

Influenza Vaccine Benefits

Protects against the Influenza virus, which causes a contagious respiratory illness commonly called “the flu.” Common symptoms of influenza are fever, headaches, sore throat and fatigue. Most people will recover in less than two weeks, but serious complications can be life-threatening. The annual flu vaccine has been recommended in the US since the 1950’s.

Prevents long term effects: Once infected with influenza, anyone, even healthy adults, can become ill with pneumonia, bronchitis, and ear infections. People with medical conditions, pregnant women and young children are especially at risk for complications. The flu can cause worsening of chronic medical conditions, such as congestive heart failure, asthma or diabetes.

Saves lives: Flu outbreaks usually occur annually during the winter months. During the 2012-2013 season, 171 influenza-associated deaths were reported in children. The CDC estimates in a 31 year period (1976-2007), about 25,000 people died from influenza complications.

Concerns

Who should receive the flu vaccine?

In the US, universal influenza vaccination is recommended. People with chronic illness, children under five, people older than 50 years, people with weakened immune systems and the people who will be in contact with these populations have priority to get the vaccine, since they are most at risk for flu complications.

Are all forms of the vaccine safe?

There are many vaccine options, but the main two categories are the live, attenuated (disabled) virus vaccine and an inactivated (dead) virus containing vaccine. The live, attenuated virus vaccine is often given as a nasal spray, called FluMist. It’s recommended that people with immune deficiencies receive the inactive viral vaccines instead of the live, attenuated form. No form of the vaccine can cause flu illness. The inactivated virus vaccine is safe for everyone 6 months old and older. The live, attenuated virus vaccine is safe for everyone over 2 years old. The CDC does not recommend any form over the others.

What side effects are associated?

Mild reactions that may last a few days are pain, redness and swelling at injection site, fever or muscle aches. The flu vaccine that is administered nasally (live, attenuated) can cause runny nose and sore throat lasting a few days. These side effects are rare, and usually occur in people who have never had the flu vaccine or the flu infection before.

Does the flu vaccine cause Guillain-Barre syndrome?

Guillain-Barre is a disorder of the peripheral nervous system that can be triggered by infection. The majority of people recover within a few months, but in certain cases it can be life-threatening. Guillain-Barre incidence is 1.6 cases per one million vaccinations. For unvaccinated people who become infected with the flu, the risk of Guillain-Barre syndrome is 10 times greater.

What if my child has an egg allergy?

Because this vaccine is made using chicken eggs, people with severe egg allergies (anaphylaxis) are advised not to receive the vaccine. However, virtually all recipients with egg allergy did not have an adverse reaction. People with mild egg allergies are recommended to receive the shot under the guidance of an allergist. Non-egg based formulations are currently available for adults, and will likely be approved for children soon.

How effective is this vaccine?

The vaccines are adjusted every year due to changes in circulating flu viruses, and effectiveness varies. Although they are effective in the lab setting, there are several reasons the real world effectiveness may seem lower. First, influenza-like illnesses may be mistaken for the flu. Another reason is that the flu vaccine might not protect against a prevalent, new variant of influenza virus. Even when mis-matched, the vaccine will provide some protection, at least decreasing the severity of illness and preventing complications. A study pooling data from 1979 to 2007 found an overall rate of 59% protection against the flu. For children between 6 months and 7 years old, the live-attenuated vaccine is 83% effective. Protection lasts 3 years for healthy adults and children, but decreases after 6 months. Annual flu shots provide a booster and protection from newer flu strains.

Can I wait to vaccinate my child?

Children younger than five years, and especially less than two years old, are at increased risk for complications from the flu. Children should be vaccinated at 6 months for maximum protection. Protection from the flu takes 2-4 weeks to establish after vaccination.

Can't I just treat this illness if it occurs?

There are antiviral treatments available for the flu that can shorten duration of fever and other symptoms, and may reduce the risk of complications. However, benefit is greatest when antiviral is administered as early as possible, which can be difficult. It is recommended for anyone with a suspected case of the flu who is at increased risk, including children younger than two years of age. Resistant viral strains are not currently prevalent, but this is a concern as the drugs are used more. Only vaccination can prevent illness.

What chemicals does it contain?

The majority of influenza vaccines do not contain thimerosal and are widely available. Only the vaccine in multi-dose vials contains .01% thimerosal preservative to prevent contamination of dangerous bacteria and fungus. Thimerosal has been used for over 80 years, and there has been no evidence of toxicity. Thimerosal is a compound that contains mercury in the ethylmercury form. This form is very different from the natural occurring methylmercury, which is the source of mercury poisoning in very high doses. Ethylmercury is broken down quickly in the body and is much safer than methylmercury exposure. No reputable study has shown a link between thimerosal and autism when investigating using a variety of methods. The amount of thimerosal in a .25 mL pediatric vaccine dose is about 12 micrograms, far less than the safe exposure limit for 6 month old infants, which is 354 micrograms for *any* form of mercury.

Do any of these sources have ties to pharmaceutical companies?

The sources used for this handout are the Center for Disease Control (CDC), the World Health Organization (WHO), Children's Hospital of Philadelphia (CHoP) and articles from the most well-regarded medical journals. While some employees at these organizations have ties to pharmaceutical companies, they are upfront about these connections. The WHO reviews studies conducted all around the world, which are less likely to be connected to pharmaceutical companies. The CDC took steps in 2006 to make its vaccine recommendation unit more independent and less subject to bias.

References:

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