

## Flu Shot Facts to Share With Your Patients by Dr. Claudia Anrig

Every year just before the weather turns colder, the U.S. Centers for Disease Control and Prevention begins an advertising campaign geared toward motivating the masses to get the flu vaccine. They talk about the number of deaths each year that are attributable to the flu and the number of missed work days that cost employers hundreds of thousands of dollars. This year, that campaign will likely be even more urgent due to outbreaks of the "swine flu" virus, which have spread from one country to the next in the past six months or so. This article is not intended to decide for parents (and their children) whether to vaccinate or not to vaccinate for the flu, but rather to provide information so they can decide for themselves.

### What Is the Flu?

Influenza is a contagious respiratory illness caused by influenza viruses. The most common symptoms are fever, headache, fatigue, cough, sore throat, runny or stuffy nose, and body aches, as well as diarrhea and vomiting. The flu can cause complications such as pneumonia or dehydration and may aggravate existing conditions like asthma and heart disease. It is spread from person to person in respiratory droplets when people who are infected cough or sneeze.

### What Is the Flu Shot?

The flu shot is an inactivated vaccine (containing killed virus) that is given with a needle, usually in the arm. The flu shot has been approved for use in people older than 6 months of age, including healthy people and people with chronic medical conditions (such as asthma, diabetes, or heart disease). What the CDC doesn't tell you is that the other ingredients in the flu shot include, but are not limited to the following:

- Ethylene glycol - antifreeze
- Phenol (also known as carbolic acid) - a disinfectant and a dye
- Formaldehyde - a known carcinogen (cancer-causing agent)
- Aluminum - associated with Alzheimer's disease and seizures, and has produced cancer in laboratory mice, but is still being used as an additive to promote antibody response
- Thimerosal - a mercury disinfectant and preservative that can result in brain injury and autoimmune disease
- Neomycin and Streptomycin - used as antibiotics and have been known to cause allergic reactions in some people

### What Are the Potential Side Effects?

Just like all vaccines and medications, there are potential side effects associated with the flu shot. The CDC and other health care organizations would have you overlook them for the supposed benefit of being inoculated against the flu. However, it's important to at least be familiar with these potential side effects and weigh the potential risk vs. benefit when deciding whether to receive the shot.

Minor side effects can include but are not limited to soreness, redness or swelling at the injection site, low-grade fever and other aches and pains. More severe, life-threatening complications have proven to be rare, but the danger still exists that someone can suffer severe effects from this alleged beneficial vaccine. The most common dangerous side effect is an allergic reaction. Since the vaccine is grown in eggs, it is more dangerous for those who have had an allergic reaction to other vaccines in the past. These reactions can include breathing problems, hoarseness or wheezing, hives, paleness, weakness, and a fast heartbeat or dizziness. The CDC has recognized the danger and recommends that those who have had an allergic reaction to a vaccine in the past not get the flu shot before speaking with their health care professional.

An even more serious side effect is Guillain-Barre syndrome (GBS). This is a disease in which the body damages its own nerve cells, resulting in muscle weakness and sometimes paralysis. While most people eventually recover, some have permanent nerve damage and 5 percent to 6 percent of those who develop GBS will die. The CDC would remind you that only six of every 1 million people injected with the flu shot will develop GBS.

The American Academy of Pediatrics Warns...

The AAP provides guidelines for circumstances under which patients should not be vaccinated with the flu shot or nasal spray. According to the AAP, a patient should not get vaccinated if any of the following applies (whether restriction applies to flu shot, nasal spray or both is noted in parentheses):

- Less than 6 months of age (flu shot); less than 5 or older than 49 (nasal spray)
- Moderate to severe febrile (fever) illness (both)
- History of Guillain-Barre syndrome (both)
- Hypersensitivity, including anaphylaxis, to eggs, to any influenza vaccine dose, or to any of its components (both)
- Asthma, reactive airway disease, or other chronic disorders of the lungs or cardiovascular systems (nasal spray)
- Have underlying medical conditions including metabolic diseases, such as diabetes, renal dysfunction, and hemoglobinopathies
- Received other live vaccines within the past four weeks (nasal spray)
- Known or suspected immunodeficiency disease, or receiving immunosuppressive therapies (nasal spray)
- Take aspirin (nasal spray)

Are the Side Effects Worth It?

After careful consideration of the risks associated with the vaccine, it's wise to weigh those risks against those of the flu. The CDC talks about the benefits of being vaccinated, but are those benefits backed up with the facts? The flu vaccine is always changing because the flu strains change from one year to the next. (The swine flu is once such variation.) The manufacturers of the vaccine take a shot in the dark and hope they'll hit the right strain each year, but the fact is the flu shot is only 70 percent to 90 percent effective.

Dean Eurich, a clinical epidemiologist and professor at the school of public health at the University of Alberta, recently considered the data and reported that over the past 20 years in the United States, vaccination rates among the elderly have increased from 15 percent to 65 percent, but hospital admissions and death rates from all causes have not declined proportionately. "Only about 10 percent of winter-time deaths in the United States are attributable to influenza, thus to suggest that the vaccine can reduce 50 percent of deaths from all causes is implausible in our opinion," Eurich said.

A further study by Sumit Majumdar, MD, reached the same conclusion. According to his research, after considering all the facts and taking into account immunizations, socioeconomic status, sex, history of smoking and the severity of the flu, the actual benefit of the flu shot is "reduced to a statistically non-significant level of 19%."

What About Flu Complications?

The CDC is very effective in communicating to the lay individual that if they are pro-active and vaccinate against the flu, it will help avoid the dangerous complications from the flu, such as pneumonia, but recent studies are debunking that theory. A recent article published in the Lancet medical journal suggests the flu vaccine is having little or no effect on the number of

elderly people developing pneumonia each year, and a recent study led by Michael Jackson, MD, of the Seattle-based Group Health Center for Health Studies, that compared 1,173 pneumonia patients between the ages of 65 and 94 who had been vaccinated with 2,346 people who hadn't, determined that the risk of contracting the lung disease wasn't reduced by the shot.

#### As Simple as Practicing Good Health Habits?

The CDC and the AAP (and probably your Mom when you were growing up) all advocate simple health habits to prevent the spread of illnesses like the flu. Recommend your patients take the following four steps to minimize their risk: 1) Cover your nose and mouth with a tissue when you cough/sneeze; throw the used tissue away. 2) Wash your hands often with soap and water and as soon as possible after coughing or sneezing. 3) Keep yourself and any babies and children in your care away from people who are coughing or sneezing. 4) Try not to touch your eyes, nose, or mouth.

#### Resources

- Woloshin S, et al. "A Shot of Fear." Washington Post, Oct. 25, 2005.
- Jackson ML, et al. Influenza vaccination and risk of community-acquired pneumonia in immunocompetent elderly people: a population-based, nested case-control study. *The Lancet*, Aug. 2, 2008;372(9636):352-254.
- Seasonal Flu Shot: Q&A. Centers for Disease Control and Prevention. [www.cdc.gov/FLU/about/qa/flushot.htm](http://www.cdc.gov/FLU/about/qa/flushot.htm).
- American Academy of Pediatrics. Preventing the Flu in 2007-2008.