

# Influenza

also known as flu

## “Flu Can Kill Healthy Children”: A True Story

One Wednesday afternoon in late January 2004, 3½-year-old Emily Lastinger took an unusually long nap. Strep throat had been going around at her preschool, so Emily’s parents, Joe and Jennifer, took her to the doctor the next day to make sure she was okay. A nurse did a nasal swab and discovered that Emily had influenza (the flu). Emily was given influenza antiviral drugs to treat her illness, and her parents were told to give her plenty of fluids to drink as well as a fever reducer.

By Saturday, Emily was sicker. Her fever rose to 103 degrees, and she began vomiting. “Even though Emily was obviously sick, she was well enough to be up with the family that weekend, watching TV, and playing a bit,” recalls Jennifer. “But we were worried and called the doctor a couple of times to talk about her symptoms and ask if we should come in to have someone look at Emily.”

The doctor reassured the Lastingers that Emily had typical flu symptoms and that they should keep trying to give her plenty to drink. Jennifer and Joe were told to bring Emily in on Monday if they were still concerned.

On Monday morning, Emily’s parents made a doctor’s appointment for that afternoon. “I gave Emily a bath and got her dressed,” says Joe. Then, Emily lay down

in her parents’ room to rest. Fifteen minutes later, her mother found her lifeless on the bed.

Jennifer and Joe started CPR immediately. Soon paramedics arrived. Forty-five minutes later in the emergency room, doctors were able to start Emily’s heart and quickly transferred her to a local children’s trauma center. Doctors worked for 12 hours to keep her heart and lungs working, but Emily died that evening.

“A lot of thoughts go through your mind,” says Joe. “You think, ‘Little girls don’t suddenly collapse and die.’ You think, ‘Parents don’t go into the hospital with their child, and then leave without her.’”

The autopsy revealed that because of the flu, Emily had pneumonia with a painful complication called an empyema (infection of the lungs). Emily had not been vaccinated against the flu.

“The flu made the unthinkable real in our family,” says Joe. “And now we’re committed to making sure that everyone knows one important truth: The flu can kill healthy children.”

“I could have gotten Emily the flu vaccine,” says Joe. “Whatever else you do, be sure to get your children the flu vaccine every year.”

## Flu is Not a Cold or a Stomach Bug

A mild case of flu can sometimes look like the common cold. But flu can be much more serious. In addition to fever, cough, sore throat, and runny or stuffy nose, flu can cause headache, muscle ache, and fatigue. And even though flu is not a stomach bug, children also can have nausea, vomiting, and diarrhea.

“Although most flu illnesses in children do not lead to complications, some can lead to ear infections, pneumonia, hospitalization, and in rare cases, even death,” says Dr. Carolyn Bridges of the Centers for Disease Control and Prevention (CDC). “By far, the best way to prevent influenza is by getting a flu vaccine. Every year, there are children who die of flu.”

Every year in the United States, even healthy children are hospitalized or die from flu complications. Millions of children get sick with flu each year, 20,000 children younger than 5 years old are hospitalized from flu-related causes and sadly, deaths in children from flu occur every year. From 2003-2004 to 2009-2010, pediatric deaths reported to CDC

ranged from 46 to 153 each year. During the 2009 H1N1 pandemic, more than 340 deaths in children were reported to CDC from April 26, 2009 to May 22, 2010.

## Flu Spreads Easily

People who have flu usually have a runny nose, and they cough and sneeze, which makes droplets with viruses in them. Other people can get the flu by breathing these droplets in their noses or mouths or touching surfaces contaminated with flu virus and then touching their noses or mouths.

“The best way for parents to protect themselves and their children from flu is to get the entire family vaccinated with flu vaccine every year,” says Dr. Meg Fisher from the American Academy of Pediatrics.

## Get a Flu Vaccine Every Year

Why should you get a flu vaccine every year? Flu season most often peaks in February, but flu viruses can continue to spread and cause illness until April or May. There are many different flu viruses, and they change constantly. For

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each season, a new flu vaccine is produced that is designed to protect against the three main flu viruses that are expected to cause the most illness during the upcoming season—the decision about which viruses to include is based on the best information available and the opinion of experts. The vaccine can protect against illness from the viruses in the vaccine, or it can make illness milder if people are exposed to a different but related flu virus. Another reason to get vaccinated every year is that the body's immunity from the vaccine decreases after a year, so your body needs a new vaccine to renew immunity.

## Who Should Get a Flu Vaccine?

Annual flu vaccination is recommended for everyone 6 months of age or older. Vaccination is especially important for parents, caregivers, and other adults who live with or come in close contact with children at high risk of getting very sick if they get the flu. Children at high risk include babies younger than 6 months (these babies are too young to be vaccinated), children 6 months through 5 years of age, and children or adolescents of any age who have certain chronic health problems such as asthma, heart disease, or neurologic conditions. "Making sure parents and children are vaccinated every year not only helps create a circle of protection around families—it also helps slow the spread of flu throughout the community," says Dr. Fisher. "Families should plan to get vaccinated against flu as soon as vaccine is available in the community."

## Benefits of Flu Vaccine

Getting the annual flu vaccine as recommended—

- Saves lives.
- Prevents hospitalizations.
- Protects young children and pregnant women, for whom the disease can be especially serious.
- Protects your family, especially infants, who are too young to get flu vaccine, and grandparents and other seniors who may live with young children.

## Risks of Flu Vaccine

- Side effects are mild and last only a few days. The flu shot can cause soreness, redness, or swelling in the area where the shot was given as well as low-grade fever and achiness. The nasal spray vaccine can cause runny nose, wheezing, headache, vomiting, muscle aches, and fever. Adults also may experience cough and sore throat.
- Moderate side effects, such as an allergic reaction, are possible, though uncommon.
- Severe side effects, such as a severe allergic reaction or a condition called Guillain-Barré syndrome, an illness associated with temporary paralysis, are rare.

## Two Ways to Get Vaccinated Against Flu

**A**nnual flu vaccination is the safest, most effective way to protect both children and adults against serious illness caused by flu.

You can receive the flu vaccine two ways—as a shot or a nasal spray. All flu vaccine is made from flu viruses that are grown in chicken eggs and then purified.

The flu shot is approved for most people 6 months of age or older. The nasal spray vaccine is approved for healthy people 2 years through 49 years of age. Children with asthma or other medical conditions that increase their risk of severe influenza illness should not get the nasal spray vaccine. Also, children 2 years through 4 years of age who have had wheezing in the past year also should not get the nasal spray vaccine. Pregnant women need to get the shot, not the nasal spray vaccine.

Some children who are vaccinated for the first time may need more than one dose.

### Selected References

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## Flu Vaccine is Safe

Many studies over many years have shown that flu vaccine is safe. Flu vaccines are also effective. A number of studies have shown that the flu vaccine works, but how well the vaccine works can change from year to year and vary among different groups of people. The ability of the flu vaccine to protect a person depends on at least two things: 1) the age and health of the person getting the vaccine and, 2) the similarity or "match" between the virus strains in the vaccine and those being spread in the community. Mild side effects from the flu shot may include soreness, redness, or swelling where the shot was given, fever (low grade), or aches. Side effects of the nasal spray flu vaccine can include stuffy or runny nose. If they occur, these side effects last only a few days. Severe side effects are rare.

Some people are concerned about a preservative in vaccines called thimerosal. "Parents should remember that there have been many scientific studies showing that thimerosal in vaccines does not cause harm," says CDC's Dr. Anne Schuchat, director of the National Center for Immunization and Respiratory Diseases. While there is no scientific evidence that thimerosal is harmful in vaccines, a thimerosal-free influenza vaccine is available that people can request from their health care professional.

For example, children younger than 9 years old who are getting a flu vaccine for the first time need two doses spaced 4 weeks apart, so getting young children vaccinated early is important. Ask your health care professional about the flu vaccine that your child needs.

## Each Year, the Vaccine Protects Against Three Flu Viruses

**H**ealth experts in the United States closely watch flu activity around the world, and every February they decide which three flu viruses are most likely to cause disease in the upcoming flu season according to the most recent research. How well the flu vaccine works each year partly depends on how well the viruses in the vaccine match the viruses that are making people sick. Sometimes, the match is not perfect. But even in these years, vaccination still can help by making flu illness less severe.

*The Centers for Disease Control and Prevention, the American Academy of Family Physicians, and the American Academy of Pediatrics strongly recommend vaccines.*

**800-CDC-INFO (800-232-4636)**  
**<http://www.cdc.gov/vaccines>**