



About Influenza

Fundamental Influenza Facts

Influenza, or “the flu,” is a respiratory viral illness² that affects millions annually.⁷ Each year, influenza infects 10 to 20 percent of the United States population⁷ during influenza season – which typically peaks December through March.⁶ Influenza can have a substantial impact on all aspects of a person’s life. In fact, on average, influenza leads to seven to 15 days of illness, five to six days of restricted activity, three to four days of bed rest and three to five days of missed work or school.^{8,9} In addition, in a typical year, influenza is responsible for an average of 36,000 deaths (primarily in the elderly)⁶ and is estimated to be responsible for more than 200,000 hospitalizations,²⁷ 25 million physician visits³⁰ and 95 million illnesses each year in the U.S.²⁴ However, the influenza season can be more severe when a major circulating strain of influenza does not match any of the strains selected for the vaccine formulations – this is called a vaccine mismatch.¹⁰ In fact, vaccine mismatch has occurred to varying degrees in four of the last eight influenza seasons, most recently during the 2003-2004 and 2004-2005 influenza seasons.³¹

Each year, influenza vaccines are made to match the three most prominent influenza strains predicted for the coming influenza season.³ Vaccination introduces the antigens of those viral strains to the body, stimulating antibodies that help the body to resist infection.¹¹ However, because strains for the annual influenza vaccines are chosen by world public health organizations well in advance of influenza season, the strains contained in the vaccine often do not match those circulating in the community. New, unpredictable strains can emerge during the influenza season as circulating strains of influenza evolve and mutate.

The strains selected by the U.S. Public Health Service for inclusion in the 2005-2006 trivalent influenza vaccine are:⁶

- A/California/7/2004 (H3N2)-like
- A/New Caledonia/20/99 (H1N1)-like
- B/Shanghai/361/2002-like

Virus Types and Mutations

There are several types of influenza viruses.² Influenza types A and B are responsible for the debilitating symptoms associated with influenza.²

The influenza virus is highly adaptable and constantly evolves, disguising itself through mutation to avoid the body’s immune system. The gradual accumulation of mutations, or “antigenic drift,” leads to the introduction of new influenza virus strains from year to year. Therefore, antibodies developed by the body against current influenza viruses may not provide protection against new strains. When an abrupt and dramatic mutation of an influenza strain occurs, it is called an “antigenic shift.” Although infrequent in occurrence, antigenic shifts cause influenza viruses to emerge that either are new or have not circulated in many years. When antigenic shift happens, the influenza virus can spread very rapidly from one person to another, causing a pandemic.³

An influenza pandemic is similar to an influenza epidemic but occurs on a global scale. The most catastrophic influenza pandemic on record was the 1918-1919 “Spanish flu,” which resulted in more than 20 million deaths worldwide.¹⁸ Most of these deaths were in young and otherwise healthy adults.¹⁹

The most recent severe pandemic occurred in 1968, and scientists believe that it is inevitable that a new pandemic strain will emerge in the future.²⁰ Given the trend of increased mobility and urbanization of the rapidly expanding population, people in the 21st century could be especially vulnerable during such an outbreak.¹⁹

Understanding the Transmission of Influenza

When an infected person sneezes, coughs, or even speaks, he or she expels microscopic droplets that can contain the influenza virus,³ which if inhaled can infect others.² Therefore, one infected person can quickly turn crowded or enclosed spaces such as schools, homes and offices into likely locations for catching influenza.³

Once the influenza virus enters the nose, it invades the lining of the throat, nasal passages and sometimes the lungs, and can quickly cause an infection.² The virus then infects healthy cells and rapidly produces thousands of copies of the influenza virus, which can then infect other cells throughout the respiratory tract.¹¹

Because influenza virus is airborne,³ it is easily transmitted, placing many at risk of exposure to influenza, including groups such as:

- School-aged children,^{12, 13}
- Adults in frequent contact with children, such as parents^{13, 14} and teachers/childcare providers.^{12, 15}

Common Cold vs. Influenza

Although often confused with the common cold, influenza is more severe and potentially poses a greater health risk. Every year, an estimated 17 to 50 million cases of influenza are reported nationwide⁷ – many of which occur in otherwise healthy people.¹⁶

Similar to the common cold, influenza can produce respiratory symptoms, such as runny nose, sneezing, coughing and sore throat.¹¹ However, the influenza virus typically causes more intense symptoms, including sudden onset of fever, chills, severe fatigue, headache, muscle aches and profound weakness in adolescents and adults.^{3, 11} Unlike symptoms of the common cold, the fatigue and malaise caused by influenza can last more than two weeks – lingering long after other symptoms subside.⁶

Symptoms

Common Cold ¹⁷	Influenza
Little or no fever	Fever (usually 100°F to 104°F, temperatures tend to be higher in children than adults), ² sometimes accompanied by chills and sweating ³
Little or no headache	Headache ² and moderate to severe joint and muscle aches, especially in the back ¹⁸
Very mild fatigue or malaise	Fatigue and malaise, ² sometimes lasting for more than two weeks ⁶
Sore throat	Sore throat ³
Runny/stuffy nose and sneezing	Nasal congestion and sneezing ²
Cough	Dry cough ³

Influenza can sometimes cause vomiting, diarrhea or abdominal pains especially in children. Such symptoms are less common in adults.³

Influenza Risk Groups

Everyone is at risk of exposure to influenza, regardless of age or gender.³ Because everyone is at risk for being infected with the influenza virus and can spread the disease to others, the U.S. Centers for Disease Control and Prevention's (CDC) Advisory Committee on Immunization Practices (ACIP) supports influenza vaccination for a variety of people, including anyone who wishes to reduce the chance of getting influenza.⁶ In addition, in 2004 the ACIP expanded its vaccination recommendations for all healthy children 6 to 23 months of age and close contacts of children 0 to 23 months of age.⁶

FluMist® (Influenza Virus Vaccine Live, Intranasal) is approved for healthy children, adolescents and adults 5 to 49 years of age. This means all healthy non-pregnant people within the age indication, including out-of-home caregivers and household contacts of persons in high-risk groups, and most health care workers, can receive FluMist.²⁸

Safety Information

FluMist is approved for the prevention of influenza in healthy children, adolescents, and adults, 5 to 49 years of age. There are risks associated with all vaccines, including FluMist. Like any vaccine, FluMist does not protect 100 percent of individuals vaccinated, and may not protect against viral strains not contained in the vaccine. In studies of people between the ages of 5 and 49, side effects were generally mild and temporary. Runny nose was the most common. Other common side effects included various cold-like symptoms, such as headache, cough, sore throat, tiredness/weakness, irritability, and muscle aches.

FluMist should not be used, under any circumstances, in anyone with an allergy to any part of the vaccine, including eggs; in children and adolescents receiving aspirin therapy; in people who have a history of Guillain-Barré syndrome; and in people with known or suspected immune system problems. Pregnant women and people with certain medical conditions, asthma, or reactive airways disease should not get FluMist.

Please see the Prescribing Information, visit flumist.com, or call 1-877-633-4411 for additional information.