Influenza Complications

Influenza-Related Complications Can Affect Everyone:
Influenza is a serious infectious disease that can cause severe illness in people of all ages even if they are in good health. An individual’s response to influenza is difficult to predict. Some people will experience mild symptoms, while the virus may cause serious infection or death in others. Influenza complications that can affect anyone include:
- Pneumonia
- Bronchitis
- Sinus infections
- Ear infections
- Worsening of chronic medical conditions such as asthma, diabetes, and heart disease

Here are some key facts about how influenza affects different populations:

- **Children and infants:**
  - **Children up to age 18 years of age:** During the last influenza season (2012-13), 161 deaths were confirmed in U.S. children, the highest number since the 2009 pandemic, when 348 deaths were reported.\(^1\) Nearly half (46%) of children hospitalized with influenza were previously healthy and had no underlying medical conditions.\(^1\)
  - **Under 5 years old:** Each year, 20,000 children younger than 5 years of age are hospitalized with influenza complications.\(^3\)
  - **Under 2 years old:** Severe influenza complications are most common in children younger than 2 years of age.\(^3\)
  - **Under 6 months old:** Infants up to 6 months of age are at high risk of serious flu complications, but are too young to be vaccinated themselves. The best way to protect them is to vaccinate the mother before or during pregnancy, and also all household members and caregivers who will be around these infants.\(^4\)

- **Adults age 65 years and older:** Adults age 65 years of age and older typically account for 90 percent of flu-related deaths and 60 percent of flu-related hospitalizations due to weakened immune systems and a reduced ability to respond to the standard influenza vaccine.\(^5\) People age 65 years and older may wish to ask their healthcare provider about the high-dose vaccine that contains four times the amount of antigen to help them build a higher immune response.

- **Pregnant women:** Influenza is more likely to cause severe illness in pregnant women than in women who are not pregnant.\(^6\) During the last influenza season, more than a quarter (28%) of women hospitalized with influenza were pregnant.\(^1\) Pregnant women with the flu are not only at increased risk of hospitalization, but of having adverse pregnancy outcomes, including premature labor and delivery.\(^6\) Infants born to mothers who received the influenza vaccine during pregnancy have a lower risk of contracting influenza or being hospitalized because of influenza in their first 6 months of life.\(^7,8\)

- **Asthma:** People with asthma, even if it is mild and well-controlled, are at increased risk from influenza complications. Influenza can increase inflammation in the lungs and airways, provoking an asthma attack and worsening asthma symptoms. People with asthma are also more likely to develop pneumonia and are at increased risk of other acute respiratory diseases.\(^9\)
• **Diabetes:** People with diabetes are at increased risk of severe influenza complications, including hospitalization and death. This is true even when their diabetes is well managed. Diabetes can interfere with the body’s ability to fight influenza and the influenza virus can interfere with management of blood sugar levels.\(^{10}\)

• **Heart disease:** Influenza can trigger a heart attack or stroke.\(^{11}\) According to the president of the American Heart Association, influenza puts more stress on the heart, making it work harder to pump blood through the lungs.\(^{12}\) In people with heart disease, influenza can cause serious complications that can lead to death.

• **Obesity:** People with body mass index, or BMI, of 40 or more are at increased risk for developing flu-related complications and are hospitalized at a higher rate than those with BMI less than 40.\(^{13,14}\)

• **Compromised immune system:** Cancer patients, former cancer patients, and people living with HIV/AIDS are among those who are at a greater risk of developing serious flu-related complications, including hospitalization and death.\(^{15,16}\)

• **Healthcare workers:** Healthcare workers who are vaccinated reduce staff illness and absenteeism and reduce the incidence of influenza-related illness and death among their patients.\(^{17}\) The CDC and most major medical groups recommend that all healthcare workers be vaccinated against influenza.

**References**


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