

Dangerous flu complications in children

As flu cases continue to rise, doctors are seeing a troubling increase in severe and sometimes life-threatening complications — particularly in children. While influenza is often dismissed as a routine seasonal illness, medical experts warn it can lead to infections that affect the lungs, brain, heart and other vital organs.

[Mustafa Bakir, MD, a pediatric infectious disease specialist with OSF HealthCare](#), says the flu's ability to damage the body's natural defenses is what makes it especially dangerous.

"If the virus destroys the mucosal sites, they can go wherever they aren't supposed to," Dr. Bakir says. "Like the ears," adding that ear infections happen in roughly 3% of patients.

How the flu leads to serious complications

Influenza disrupts the mucosal barriers that line the respiratory tract, which normally act as the body's first line of defense. Once compromised, bacteria and viruses can spread beyond the nose and throat, triggering widespread inflammation and secondary infections.

"[Influenza](#) is one of the severe viral illnesses in small kids and all vulnerable patients who are immunocompromised or have chronic diseases," Dr. Bakir says.

Among hospitalized flu patients, complications are common.

"Looking at the complication rates in admitted patients with influenza; up to one third of them are going to have severe pneumonia," Dr. Bakir says. "Up to 10% of them will have some neurological symptoms and diseases. A common one is [febrile seizures](#)."

Brain infections and neurological risks

During the 2024–2025 respiratory illness season, the U.S. Centers for Disease Control and Prevention (CDC) reported 109 cases of [encephalitis](#) in children nationwide — a serious brain infection linked to influenza. Three of those cases were treated at OSF HealthCare Children's Hospital of Illinois in Peoria, Illinois.

Encephalitis can lead to long-term brain damage or death. Some cases are classified as pediatric influenza-associated encephalopathy or acute [necrotizing encephalopathy](#), rare but severe complications that require immediate medical attention.

Severe pneumonia and lung damage

In addition to standard pneumonia, Dr. Bakir says necrotizing pneumonia, a rare but dangerous condition, "has also been seen."

This form of pneumonia causes destruction of lung tissue, sometimes described as the "melting down" of the lungs. Patients typically require hospitalization and extended courses of intravenous antibiotics.

Heart, sinus and gland complications

The flu can also affect organs beyond the lungs and brain. Sinus infections are common, but more serious inflammatory conditions can occur.

"The other complication, which is serious, secondary to the influenza infection, is carditis," Dr. Bakir says. "The heart muscle may be involved as well, not only the skeletal muscle. This severe combination may end up with heart

failure and may be associated with the fluid collection around the heart and around the heart membrane, pericarditis.”

Other possible complications include parotitis, which is inflammation of the salivary glands, and carditis-related heart failure, which can be fatal.

Neuromuscular complications

Some flu-related complications affect muscle and nerve function and must be carefully distinguished by physicians.

“Guillain-Barre, an ascending paralysis disease in the body, is one of the complications of influenza,” Dr. Bakir says. “You have to differentiate this from benign acute childhood myositis.”

Circulating flu strains

Dr. Bakir notes that different influenza strains can be linked to different complications.

“Influenza B is more common with viral myositis,” he says.

Currently, Influenza A strains – including H3N2 and H1N1 – are circulating widely, though Influenza B remains present as well.

Low vaccination rates raise concern

Despite the severity of these complications, influenza vaccination rates remain critically low. In Illinois, only 24.4% of people are vaccinated against the flu.

To prevent widespread outbreaks and protect vulnerable populations, public health experts estimate that more than 50% of the population needs to be vaccinated.

Dr. Bakir has seen the consequences of limited vaccine access firsthand.

In his home country of Türkiye, Dr. Bakir has treated children who were dying from viral illnesses due to no access to vaccines.

Bottom line

Influenza is not just a seasonal inconvenience – it is a virus capable of causing serious, multi-organ complications in children and vulnerable patients. Low vaccination rates raise the risk of serious flu complications, including pneumonia, brain infections, heart inflammation and paralysis. Dr. Bakir stresses that prevention, early recognition of severe symptoms and timely medical care are essential to reducing hospitalizations and saving lives as flu activity continues to rise.