



**LAC DPH Health Advisory: Pediatric
Influenza-Associated Encephalopathy and
Encephalitis, including Acute Necrotizing
Encephalopathy**
February 27, 2025



This message is intended for pediatric critical care physicians and other acute care clinicians evaluating hospitalized patients with neurologic symptoms following influenza infection

Please distribute as appropriate.

Key messages

- The Centers for Disease Control and Prevention is investigating reports of pediatric influenza-associated encephalopathy and encephalitis (IAE), including acute necrotizing encephalopathy (ANE).
- ANE is a rare, potentially fatal brain disorder characterized by rapid neurologic deterioration, including seizures and coma. Patients diagnosed with ANE often have a recent history of viral infection, including influenza.
- Healthcare providers should report any current suspected cases of IAE or ANE in patients under 21 years of age, as well as any past cases that have occurred since October 1, 2024, to Public Health.

Situation

In conjunction with the Centers for Disease Control and Prevention and California Department of Public Health, Los Angeles County Department of Public Health (LAC DPH) is investigating reports of pediatric influenza-associated encephalopathy and encephalitis (IAE), including acute necrotizing encephalopathy (ANE). Since January 2025, LAC DPH has been notified of at least four reports of possible pediatric ANE cases within LA county. There have been anecdotal reports of an increase in ANE from pediatricians throughout the US.

There is currently no statewide or national surveillance for IAE or ANE, and it is not known whether reported cases are within or above expected ranges. LAC DPH is implementing enhanced surveillance for any cases of IAE, including ANE, to ensure timely identification and to assess potential risk factors.

Acute Necrotizing Encephalopathy

ANE is a rare brain disorder primarily affecting children, characterized by multiple symmetric brain lesions--particularly in the thalami--and rapid neurologic deterioration, including changes in consciousness, seizures, and coma. Patients diagnosed with ANE often have a recent history of viral infection, including influenza and SARS-CoV-2.

Neuroimaging of patients indicates symmetric, bilateral lesions in gray matter, often seen in the thalami, along with other abnormalities, including edema and inflammation.

While the pathogenesis of the disease is unknown, there is a possible genetic component involving mutations associated with cytokine storm and immune dysregulation.

The condition is thought to be fatal in about one-third of patients, and survivors often have permanent brain damage due to their illness. The best treatment for patients with ANE is still under investigation, but management typically involves modulating immune responses, including anti-cytokine therapies (e.g., tocilizumab), corticosteroids, and plasmapheresis.

Action Requested of Healthcare Providers

- Report all cases (fatal or non-fatal) of IAE or ANE to Public Health that meet all the criteria below.

IAE/ANE criteria

- Age 0-21 years
- Admitted to an acute care hospital or pronounced dead in an emergency department since October 1, 2024
- Laboratory-confirmed influenza virus infection within 14 days preceding hospital presentation, during hospitalization, or in respiratory specimens collected post-mortem.
- Documented neurologic abnormalities (meets one or more of the following):
 - Diagnosis of encephalopathy or encephalitis
 - Neurologic signs or symptoms including but not limited to seizures, altered mental status, delirium, decreased level of consciousness, lethargy, hallucinations, or personality changes lasting >24 hours
 - Neuroimaging abnormalities such as brain edema, brain inflammation, or brain lesions
 - Electroencephalogram abnormalities
 - Abnormal brain autopsy findings, if available, for children who die

Reporting

Clinicians should notify Public Health **by phone or email within 1 working day if a current patient meets the IAE/ANE criteria** and report any past cases as soon as possible.

Please provide the following information:

- Patient name
- Date of birth
- Influenza test results

- Hospital admission dates
- Medical record number

Los Angeles County DPH Acute Communicable Disease Control:

- Weekdays 8:30am–5:00pm: call 213-240-7941, or
- Send via secure email to influenza@ph.lacounty.gov

Long Beach Health and Human Services:

- Weekdays 8am-5pm: call 562-570-4302, or
- Send via secure email to LBEpi@longbeach.gov

Pasadena Public Health Department:

- Weekdays 8am-5pm: call 626-744-6089 or
- Send by secure email to nursing@cityofpasadena.net

This communication was sent by Dr. Sharon Balter, Director of Acute Communicable Disease Control Program, Los Angeles County Department of Public Health

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