

# Neurologic complications common in children hospitalized with COVID-19

August 11 2022

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Physicians at Monroe Carell Jr. Children's Hospital at Vanderbilt University have found another reason to vaccinate children against COVID-19: to help reduce the likelihood of neurologic complications caused by the virus.

"COVID-19 and Acute Neurologic Complications in Children," a study of more than 15,000 children hospitalized with COVID-19 across 52 children's hospitals over a two-year period, was recently published in *Pediatrics*.

"We determined that neurologic complications are relatively common, occurring in about 8% of children hospitalized with COVID-19," said James Antoon, MD, Ph.D., MPH, assistant professor of Pediatrics at Monroe Carell. "The complications are almost uniformly associated with worse outcomes and can be life-altering conditions.

"The best way to prevent these complications is to lower the chances of getting COVID-19 through vaccination, mask-wearing in indoor crowded places and staying home when sick."

Antoon, the first author of the paper, and colleagues noted that when the Omicron [variant](#) first emerged, cases of neurologic complications in children were reported, but most of the understanding of the complications were derived from adult studies.

This recent analysis of children ages 2 months to 18 years old showed that neurologic complications, defined as encephalopathy, encephalitis, aseptic meningitis, febrile seizure, non-febrile seizure, brain abscess and bacterial meningitis, Reye's syndrome, and cerebral infarction, were associated with increased risk of ICU admission, readmissions, in-hospital mortality, and increased hospital costs compared to hospitalizations without neurologic complications.

As of April 2022, over 13 million cases of COVID-19 were reported in children and adolescents in the United States, according to the study.

"As we found in our study, COVID-related complications can have a significant impact on the lives of children," said Antoon. "With the

emergence of new, highly contagious variants, the potential patients that are at risk is growing. Our findings emphasize the importance of vaccination and prevention of COVID-19 in children in order to prevent these potentially life-threatening complications."

**More information:** James W. Antoon et al, COVID-19 and Acute Neurologic Complications in Children, *Pediatrics* (2022). [DOI: 10.1542/peds.2022-058167](https://doi.org/10.1542/peds.2022-058167)

Provided by Vanderbilt University Medical Center

Citation: Neurologic complications common in children hospitalized with COVID-19 (2022, August 11) retrieved 27 April 2024 from <https://medicalxpress.com/news/2022-08-neurologic-complications-common-children-hospitalized.html>

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