

Researchers find no link between COVID-19 virus and development of asthma in children

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In the wake of the COVID-19 pandemic, many families worried about the long-term effects posed by the SARS-COV-2 virus. Now, researchers from Children's Hospital of Philadelphia (CHOP) found that a SARS-COV-2 infection likely does not increase the risk of asthma development in pediatric patients. The findings were [published](#) in the journal *Pediatrics*.

Respiratory viral infections early in life are [risk factors](#) for asthma. Since the SARS-COV-2 virus can cause severe lung inflammation and prolonged respiratory symptoms in certain patients, many families were concerned whether COVID-19 might trigger an asthma diagnosis in their children. CHOP established a team to further evaluate these concerns.

More than four years have passed since initial infections were reported in the United States, with testing for COVID-19 performed frequently at the beginning of the pandemic. These circumstances made for the perfect set of circumstances for a large [retrospective cohort study](#).

"During the early days of the pandemic, we could isolate the effects of COVID-19 from other viruses and follow these patients long enough to observe the onset of asthma," said first study author James P. Senter, MD, MPH, an attending physician in the Department of Pediatrics at CHOP.

"We were also testing so frequently that we had a built-in control group to compare asthma symptoms and whether COVID-19 was a critical factor."

This retrospective cohort study included more than 27,000 pediatric patients who received [polymerase chain reaction](#) (PCR) testing for SARS-COV-2 between March 1, 2020, and February 28, 2021. Patients

were followed over an 18-month period.

The analysis found that testing positive for SARS-COV-2 had no significant effect on the likelihood of a new asthma diagnosis. However, children with known risk factors for developing pediatric asthma, such as race, food allergies, [allergic rhinitis](#) (or hay fever), and [preterm birth](#)—were more likely to associate with new SARS-COV-2 diagnoses.

Since the study focused solely on [pediatric patients](#), not adult patients, more research will need to be done to assess patients at different ages and at longer intervals to further confirm there is no relationship between SARS-COV-2 and the development of asthma. Although new variants have emerged since the study was conducted, many of the fundamental elements of the original virus, which seem to reduce the allergic response produced in infected patients, have remained intact in current variants.

"This well-powered study reaffirms risk factors we know contribute to asthma development and provides clinically useful information to pediatricians and providers on the absence of risk of developing asthma as a result of COVID-19," said senior study author David A. Hill, MD, Ph.D., an attending physician with the Division of Allergy and Immunology at CHOP. "We are hopeful that this study will put to rest an outstanding question on the minds of many their families."

More information: James P. Senter et al, COVID-19 and Asthma Onset in Children, *Pediatrics* (2024). [DOI: 10.1542/peds.2023-064615](https://doi.org/10.1542/peds.2023-064615)

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