

# National Jewish Health-Led Study Identifies Emerging Illnesses from COVID-19 in Children

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SEPTEMBER 28, 2022

DENVER, CO — A National Jewish Health led study finds that children who develop shortness of breath after COVID-19 infection have evidence of peripheral airway obstruction. These children can experience persistent fatigue, shortness of breath, chest pain or cough after recovering from their acute infection symptoms. These symptoms, also known as “long COVID,” can last for months and significantly affect the quality of life by impacting cognitive function and stamina in school, while also limiting participation in sports and everyday activities. The study was published today in the [Journal of Allergy and Clinical Immunology in Practice \(JACI: In Practice\)](#).

“Many young patients who continue to experience respiratory symptoms months after having been diagnosed with COVID are told it’s all in their head, because spirometry and other diagnostics fail to show any abnormalities,” said Nathan Rabinovitch, MD, MPH, lead author of the study and director of the pediatric care unit at National Jewish Health as well as Professor in the Division of Pediatric Allergy and Clinical Immunology.



Peripheral airway obstruction means that small airways less than 2mm in diameter are narrower than expected. This could be due to inflammation in the airways or constriction of the airway muscles in that area. Using sophisticated testing, physicians at National Jewish Health identified subtle changes in the small airways that likely caused respiratory symptoms. One patient referenced in the study had no previous history of asthma and exhibited normal spirometry test results. However, he demonstrated abnormal lung hyperinflation and peripheral airway obstruction that reversed with albuterol. Over the next few months, his symptoms and airway obstruction improved with daily use of an inhaled corticosteroid, bronchodilator medication and a focused physical therapy regimen.

“Through this research, we are identifying the specific diseases that long COVID may be causing, and, therefore, we can target a specific treatment for these individual issues,” said Dr. Rabinovitch.

**National Jewish Health** is the leading respiratory hospital in the nation. Founded 125 years ago as a nonprofit hospital, National Jewish Health today is the only facility in the world dedicated exclusively to groundbreaking medical research and treatment of children and adults with respiratory, cardiac, immune and related disorders. Patients and families come to National Jewish Health from around the world to receive cutting-edge, comprehensive, coordinated care. To learn more, visit the [media resources](#) page.

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## Media Resources

We have many faculty members, from bench scientists to clinicians, who can speak on almost any aspect of

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## Media Contacts

Our team is available to arrange interviews, discuss events and story ideas.

respiratory, immune, cardiac and gastrointestinal disease as well as lung cancer and basic immunology.

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