

# Researchers report on emerging treatment for children with long COVID and recurrent fever

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Researchers at National Jewish Health have found that a subset of children suffering recurring fevers as a result of long COVID-19 have

benefited from a daily medication treatment commonly used for gout and periodic fever syndrome. Using the drug colchicine, researchers saw rapid improvement not only in their fevers but also with other long COVID symptoms such as brain fog, fatigue, and achiness. The case study is published in *The Journal of Allergy and Clinical Immunology: In Practice*.

Long COVID is defined as [persistent symptoms](#) lasting greater than 12 weeks after the initial illness. A previous analysis of pediatric patients observed 25% of patients experiencing long COVID symptoms. Symptoms include fatigue, headache, dizziness, dyspnea, chest pain, reduced appetite, concentration difficulties, memory issues, mental exhaustion, physical exhaustion and sleep issues. In addition to these common symptoms, recurrent fevers are reported in approximately 2% of [pediatric patients](#) with long COVID.

For this case study, researchers evaluated two adolescent patients suffering long COVID symptoms, including recurring [fever](#). They found through genetic testing that both individuals had a pathogenic heterozygous mutation in the innate immunity regulator pyrin: MEFV gene. Mutations in MEFV have been identified with periodic fever syndromes, and colchicine therapy has shown previously effective in those suffering from the condition.

"So much about the cause and treatment for symptoms from long COVID remains unknown. This case report is helpful in identifying a subset of pediatric long COVID patients who respond well to a safe and well-described treatment," said Nathan Rabinovitch, MD, MPH, director of the pediatric care unit at National Jewish Health and senior author of the study. "Children with persistent recurrent fevers after COVID-19 infection should be tested for this genetic variant."

Recurrent fevers are seen in pediatric diseases such as familial

Mediterranean fever and periodic fever with aphthous stomatitis, pharyngitis and adenitis. Both diseases are associated with changes in a gene that controls a fever-regulating protein called pyrin.

"Once we saw the gene mutation in both children, colchicine therapy was initiated for both patients and resulted in near immediate resolution of fevers and improvement in other symptoms," said Dr. Rabinovitch.

**More information:** Levi Keller et al, Post COVID recurrent fever in children with polymorphisms in the innate immunity regulator, pyrin; MEFV gene, *The Journal of Allergy and Clinical Immunology: In Practice* (2023). [DOI: 10.1016/j.jaip.2023.02.036](https://doi.org/10.1016/j.jaip.2023.02.036)

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