

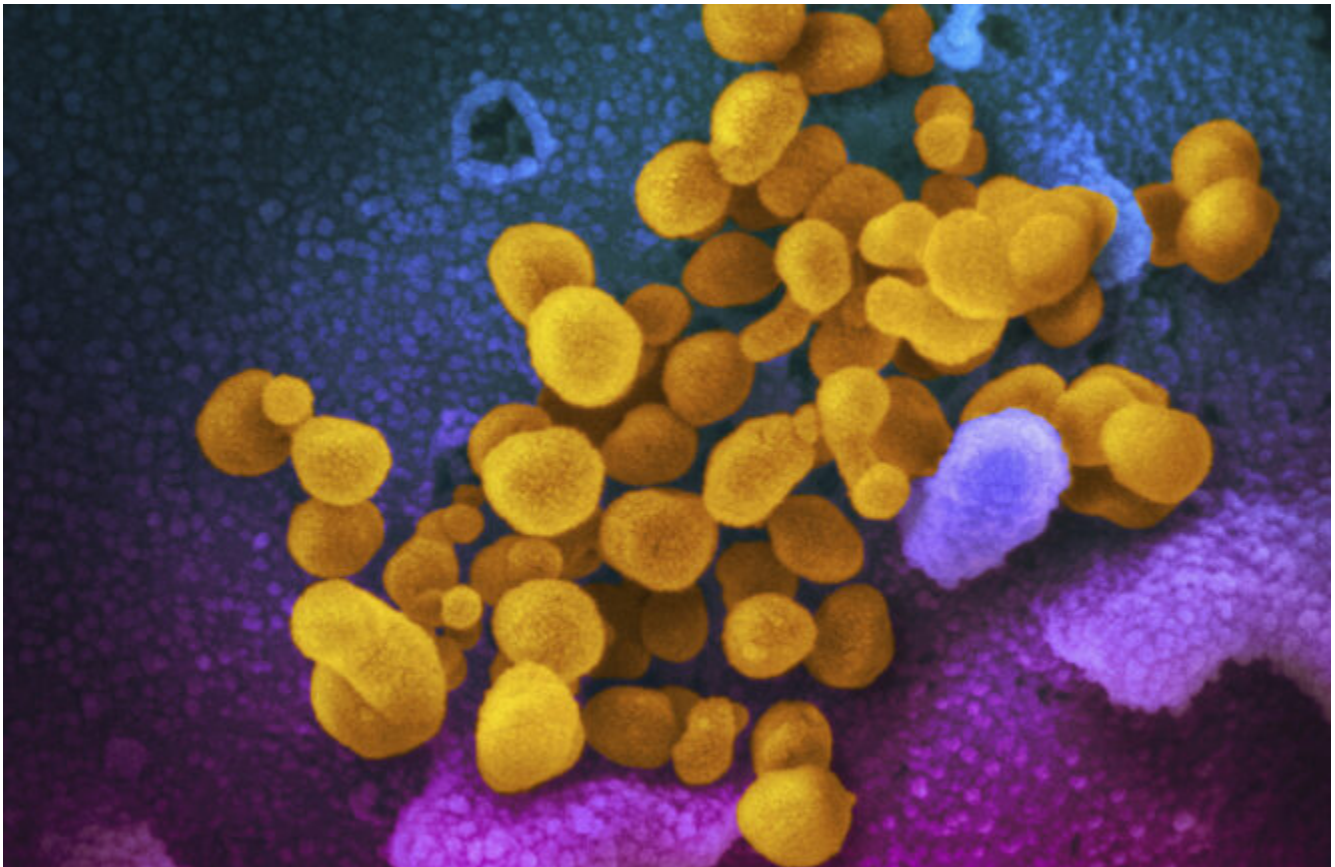
STAT

Researchers report nearly 300 cases of inflammatory syndrome tied to Covid-19 in kids

By [Helen Branswell](#) [@HelenBranswell](#)

June 29, 2020

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An electron microscope image of the novel coronavirus, in yellow, emerging from the surface of cells cultured in the lab. *NIAID-RML via AP*

Two U.S. research groups have reported finding nearly 300 cases of an alarming apparent side effect of Covid-19 in children, a condition called multisystem inflammation syndrome, or MIS-C.

While researchers have [previously reported](#) on the condition, the papers mark the first attempt to measure how frequently the side effect occurs and how it affects children who develop it.

The studies, published in the New England Journal of Medicine, describe children who develop severe inflammation affecting multiple organ systems after having had Covid-19, sometimes between two and four weeks after the infection. The majority of the children were previously healthy.

In [one of the studies](#), led by researchers at Boston Children's Hospital, 80% of the children who developed the condition required intensive care, 20% required mechanical ventilation, and four children, or 2%, died. In the [second study](#), from researchers from New York state, a similar percentage of 99 children who developed the syndrome required ICU care and two children died. In both studies, many of the children developed cardiovascular and clotting problems and many had gastrointestinal symptoms. A high proportion also had skin rashes.

“Ours were really sick kids,” said Adrienne Randolph, an ICU physician at Boston Children's Hospital and senior author on one of the papers, which was based on reports from 26 states.

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Manish Patel, from the Centers for Disease Control and Prevention's Covid-19 response team, said the message to parents is

they should be on the lookout for fever and rash in children who have recently had Covid-19.

“I think being a little vigilant is important,” said Patel, who is an author on Randolph’s paper. “Fever, rash and I think especially in the setting of areas where you have a lot of coronavirus infections, SARS-CoV-2 infections — have a lower threshold for seeking care, I would say.”

On the whole, children appear to contract SARS-CoV-2 less often than adults and have a milder course of disease when they do.

But in late April, doctors in London alerted the world to the possibility that some children who had Covid-19 appeared to go on to develop something that looked like Kawasaki’s disease, an inflammatory condition that can attack the heart. KD, as it is called, is generally seen in children under the age of 5. Shortly thereafter, doctors in New York [began to report cases](#) as well.

In mid-May, the CDC asked doctors across the country to be on the lookout for cases of multisystem inflammatory syndrome in children.

The nearly 300 cases identified in these two studies share some similarities with KD, but there are also differences. Few of the children are under the age of 5. The average age of children in the larger study was 8; 42% of the children in the New York cohort were aged 6 to 12.

Another difference: While KD disproportionately affects children of Asian descent, MIS-C cases in the New York cohort were of all

racial and ethnic backgrounds, the researchers reported.

“Among our patients, predominantly from the New York Metropolitan Region, 40% were Black and 36% were Hispanic. This may be a reflection of the well-documented elevated incidence of SARS CoV-2 infection among black and Hispanic communities,” they wrote.

The New York group estimated that the majority of MIS-C cases occurred about one month after the peak of Covid-19 cases in the state. They estimated that between March 1 and May 10, two of every 100,000 people under the 21 years of age who had laboratory-confirmed SARS-CoV-2 virus developed MIS-C in the state. The infection rate in people under the age of 21 years was 322 in 100,000 over that period.

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An editorial written by Michael Levin, from the department of infectious diseases at Imperial College London, said there have been roughly 1,000 pediatric cases of the condition reported worldwide to date. He suggested more are likely going unrecorded, because case definitions require evidence of prior Covid-19 infection.

“There is concern that children meeting current diagnostic criteria for MIS-C are the ‘tip of the iceberg,’ and a bigger problem may be lurking below the waterline,” Levin wrote.

This article was updated to include information from the New York state study.

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