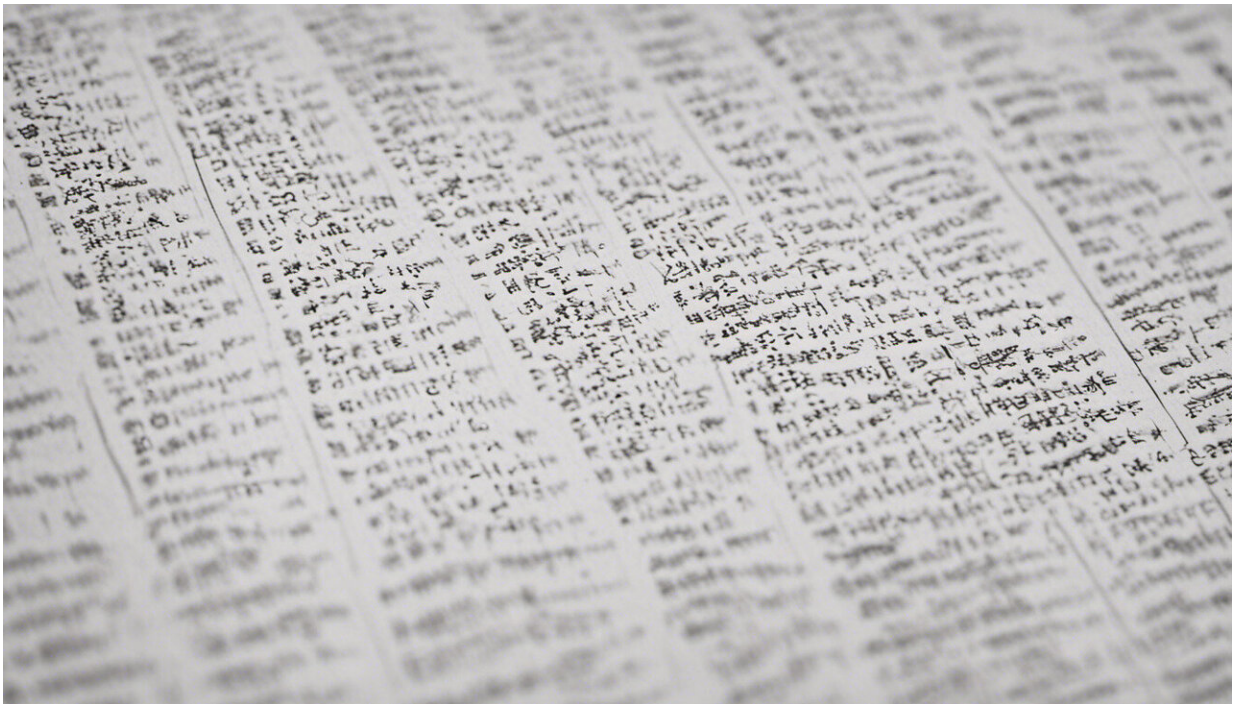


# Doctors consider possible stroke and COVID-19 connection

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Credit: AI-generated image ([disclaimer](#))

The first thing to know about the possible links between COVID-19 and stroke is simple, say doctors: We just don't know.

"We have very serious worries that there's a connection," said Dr. Patrick D. Lyden, professor of neurology at Cedars-Sinai Medical

Center in Los Angeles. "But I want to make it crystal clear that if we stay focused on evidence and data—which we really need to do more of at this moment—we don't know anything with probability."

Lyden, who wrote American Heart Association guidance for [stroke centers](#) about how to handle the coronavirus for its journal *Stroke*, said doctors anecdotally were reporting "a surprising number of very severe strokes at this time" in COVID-19 patients.

But the reason isn't clear. Many of those patients already had conditions such as [high blood pressure](#) and diabetes that made them stroke candidates. "So, the question is," he said, "is the virus somehow triggering a stroke in these folks who have the usual suspect risk factors?"

A second related worry, he said, is whether COVID-19 might be causing increased blood clotting, which could cause a stroke.

There have been reports of such strokes striking relatively young COVID-19 patients. The Washington Post highlighted such concerns, quoting doctors from several medical centers and a letter to the *New England Journal of Medicine*.

"I've seen that with my own eyes—otherwise healthy young people with COVID infection and a stroke," Lyden said. But he's not ready to declare a link. "I guess the right way to put it is, we've got our antenna up. We're looking and searching. There seem to be observations here that should worry a lot of us, but I'm not ready to say we know what we're talking about."

Dr. Thanh Nguyen, director of neuroendovascular service at Boston Medical Center and a professor of neurology, neurosurgery and radiology at Boston University School of Medicine, agreed that until

evidence is stronger, it's too early to link COVID-19 to stroke.

Nguyen, lead author of guidance on interventional stroke treatment from the Society of Vascular and Interventional Neurology published in *Stroke*, said she had read the reports about stroke in young people. But she said the COVID-19 patients she'd seen with stroke had the usual vascular risk factors, such as hypertension, diabetes and the type of irregular heartbeat known as atrial fibrillation.

So, she believes "the jury is still out" on whether COVID-19 is causing stroke in younger patients or excessive clotting.

Excess clotting could be a result of inflammation caused by the virus, Nguyen said. It also could develop just from being bedbound and immobile. And if COVID-19 were causing such clotting, she'd expect to see more reports of problems related to it. To the contrary, she's "really seeing a drastic decrease" citywide in patients with minor strokes and the mini-strokes known as transient ischemic attacks. Though, that could be related to people avoiding the emergency room out of fear of catching the coronavirus.

Lyden agreed any connection between COVID-19 and stroke might prove to be multi-layered. For example, COVID-19 patients can develop a problem called acute respiratory distress syndrome, or ARDS. That alone can put someone at risk for developing blood clots.

Lyden is paying attention to other ways COVID-19 might affect brain health.

"Some of the observations made in China is that the virus may attack the brain directly," he said. When COVID-19 patients appear confused or fall into a coma, doctors have assumed low blood oxygen is to blame. But he's wondering whether COVID-19 might prove to cause

encephalitis, similar to West Nile virus. "I'm personally very attuned to this one and asking every neurologist I know to keep an eye out."

Both doctors said anyone with stroke symptoms, such as face drooping, arm weakness or speech difficulty, should call 911. And both emphasized the need for stroke survivors to stick with their medications and to be extra cautious about protecting themselves.

"If you have had a stroke, by definition, regardless of your age, you are in the high-risk group," Lyden said. "And should you become infected with the virus, you're at higher risk of a bad outcome. So, stroke survivors absolutely need to follow social distancing and hygiene to the letter and then beyond."

And, he urged, they need to avoid treatments that have not been recommended by doctors.

Nguyen also said it's important for friends and family members to stay in regular contact with at-risk people who are isolated.

Lyden said the race to understand the links between the new disease and the old nemesis of [stroke](#) is just getting started—and the finish line is nowhere in sight.

"I think all we've done so far is understood that there is a racetrack," he said. "I don't think we even knew we were at the starting line four weeks ago. So, we're not off the blocks yet."

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