

Statin users 50% less likely to die in hospital from severe COVID-19

- A new study suggests that taking statins may help reduce the risk of dying from severe COVID-19.
- In the study, people who regularly took statins before they developed COVID-19 were roughly 50% less likely to die in the hospital than people who did not.
- Statin usage also seemed to reduce patient levels of C-reactive protein, a marker of inflammation.
- If further studies support these findings, this could provide a cost-effective, widely-available, low-risk treatment option for COVID-19.

Some [40 million](#) people living in the United States take statins to help reduce their cholesterol levels and risk of heart disease.

But statins can also have a strong [anti-inflammatory, anti-blood clotting](#), and [antiviral effect](#), all of which may help limit complications associated with severe COVID-19.

That is why researchers are trying to figure out if statin use impacts COVID-19 outcomes.

In a new study, a group of researchers, including cardiologists caring for hospitalized COVID-19 patients in New York, set out to compare patient outcomes between people who had used statins before hospitalization and those who had not.

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“Our study is one of the larger studies confirming this hypothesis, and the data lay the groundwork for future randomized clinical trials that are needed to

confirm the benefit of statins in COVID-19,” says co-lead author of the study, Dr. Aakriti Gupta, MD, a cardiologist at NewYork-Presbyterian/Columbia University Irving Medical Center.

If a successful clinical trial validates the researchers’ findings, statins could represent a low-cost, easy to access, relatively safe treatment option for COVID-19.

Why statins?

Statins are the most common type of drug that people use to lower cholesterol levels.

According to the [American Heart Association](#), they work predominately by blocking a specific cholesterol-producing enzyme, causing less production and release of cholesterol.

But statins [also seem to have](#) a strong anti-inflammatory, anti-clotting, and anti-viral effect. They [may also help](#) improve wound healing in organs such as the lungs.

Researchers have also been exploring whether statins can help treat viral infections that can lead to major complications, such as widespread inflammation, clotting, and associated cellular damage.

One of the most severe complications associated with COVID-19 and other respiratory infections is acute respiratory distress syndrome (ARDS). However, research evaluating the impact of statin usage on ARDS has not shown any large-scale benefits.

Despite this, a [2018 study](#) found that statin use improved outcomes in people with a hyperinflammatory subtype of ARDS.

A [2017 study](#) found that people taking statins on admission to the hospital for community-acquired pneumonia were less likely to die than people not taking them.

Researchers are now trying to assess whether statins could be useful in the context of COVID-19.

A [2020 study](#) conducted in Singapore found that people taking statins were less likely to be admitted to the intensive care unit (ICU) than people not taking them.

Additional research found that people with COVID-19 who started taking statins after being hospitalized but who did not treatment in the ICU were [47%](#) less likely to die.

Researchers in the U.S. also recently found that statin use before hospitalization may reduce the risk of developing severe COVID-19 by [50%](#).

The study also noted that people with COVID-19 who were taking statins before admission to the hospital saw improved recovery times.

Scientists think this might be because as well as reducing inflammation, the risk of clots, and cellular damage, statins also remove cholesterol from the outer membranes of cells.

SARS-CoV-2, the virus that causes COVID-19, binds and enters cells by attaching viral spike proteins to a cell's angiotensin-converting enzyme 2 (ACE-2) receptors.

These receptors sit in a lipid raft, a part of the cell's membrane that contains cholesterol, proteins like ACE-2, and other fats and proteins.

And [studies show](#) that removing cholesterol from these lipid rafts means that coronaviruses cannot enter cells, even after binding.