

Keep taking the blood pressure medicine during the pandemic

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Each day, at least half a million Danes take a small pill to keep their blood pressure down or to protect against heart disease, and they should continue to take the medicine during the pandemic—even if the pill they

take is an ACE inhibitor or angiotensin II receptor blocker such as losartan, enalapril or ramipril.

This is underscored by a new reassuring study, which, unlike all previous studies, also includes all Danes who have been tested for corona over a five month period—and not 'just' the most ill patients who have been hospitalized.

The researcher behind the research result is Christian Fynbo Christiansen, who is consultant, clinical associate professor and Ph.D. at the Department of Clinical Epidemiology, which is part of the Department of Clinical Medicine at Aarhus University and Aarhus University Hospital, Denmark.

"The study finally removes any lingering suspicion that this particular type of [blood pressure](#) medicine increases the risk of getting corona or of suffering a worse illness, which was something that many health professionals feared while we were learning about corona. But there is no evidence to conclude such fears are correct," says Christian Fynbo Christiansen.

In the study, which includes all Danes who were tested in the period from 27 February to 26 July this year, the researchers have examined whether users of the popular blood [pressure](#) medications had an increased probability of a positive corona test, and whether the outcome of any illness was different than that of users of other types of blood pressure medication. The comparison group also includes people who do not take blood pressure medication.

"The study shows that people who take ACE inhibitors and Angiotensin II receptor blockers had the same probability of a positive test—and no [increased risk](#) of being hospitalized or dying," says Christian Fynbo Christiansen, who can thus confirm in a large-scale study what other

smaller studies have already hinted at.

The new study is published in the journal *Thorax* and is part of a discussion about treatment that peaked in the [early summer](#), when the coronavirus was still a new acquaintance. At the time, [medical doctors](#) and researchers feared that ACE inhibitors could actually increase the risk of dying from COVID-19, because the SARS-CoV-2 virus which causes COVID-19 enters the lungs through the same ACE receptors as the ACE inhibitors.

The hypothesis was that when the ACE inhibitor does what its name states and reduces the level of ACE, the body compensates for this by activating a far greater number of ACE receptors on the surface of the cells, which the SARS-CoV-2 virus then utilizes as a kind of access key. The more keys available on the surface of the cells, the easier it is for the virus to access the cells.

"The theory about increased mortality was nourished by the fact that many of the severely ill COVID-19 patients had elevated [blood](#) pressure, which is widely treated with these ACE inhibitors. This is also why it was important to include all the Danes who had been tested—and not just those who were hospitalized—in the study," says Christian Fynbo Christiansen.

"We have a qualified basis to reiterate the current recommendation that users of medicines of the type ACE inhibitors and Angiotensin II blockers should continue to take their medicine while the pandemic is raging," he says.

More information: Christian Fynbo Christiansen et al, SARS-CoV-2 infection and adverse outcomes in users of ACE inhibitors and angiotensin-receptor blockers: a nationwide case-control and cohort analysis, *Thorax* (2020). [DOI: 10.1136/thoraxjnl-2020-215768](https://doi.org/10.1136/thoraxjnl-2020-215768)

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