

## Resolve to Save Lives Statement on ACE-Inhibitors and Angiotensin Receptor Blockers and COVID-19

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Angiotensin Converting Enzyme inhibitors (ACEis) and Angiotensin II Receptor Blockers (ARBs) are among the standard preferred antihypertensive agents, and are also recommended standard treatments for patients with chronic kidney disease, coronary heart disease, or heart failure with reduced ejection fraction. ACEis and ARBs are life-saving treatments and are generally safe, as demonstrated by randomized clinical trials.

Currently, the COVID-19 pandemic is threatening public health around the world. Early case series emerging from China, where the COVID-19 pandemic emerged, suggest that chronic conditions such as hypertension, diabetes, and underlying heart or cerebrovascular disease are associated with more severe COVID-19 disease (see case series [1](#), [2](#), and [3](#)). The details of which patients are at highest risk for severe disease are not yet well understood.

The angiotensin-converting enzyme 2 (ACE2) in the lung and elsewhere is believed to be a binding site for SARS-CoV-2, the virus causing COVID-19 disease. ACE2 de-activates angiotensin II, and early evidence in animal studies suggests that ACEis and ARBs may upregulate ACE2. Recently, [researchers hypothesized](#) that patients taking ACEis or ARBs may be at risk for more severe COVID-19 illness because of ACE2 upregulation. A [different set of researchers](#) suggested the opposite: that these medications may be protective against COVID-19 and are potential treatments of the infection. Neither hypothesis has any empirical evidence to support it at this time. [Randomized controlled trials are currently in development](#) that will provide more information about the impact of ACEis and ARBs on COVID-19.

Hypotheses about ACEi/ARB and COVID-19 risk are intriguing. They are a cause for further study, but not for changing treatment of patients who are taking, or who have indications to begin taking these medications.

ACEi and ARBs are established, life-saving treatments for patients with hypertension and other chronic illnesses. Patients should continue to take these medicines unless instructed otherwise by a doctor.

This statement aligns with guidance independently developed and released by the [European Society of Cardiology](#).