

# COVID-19: Heart and kidney patients should keep taking their medicines

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As the COVID-19 pandemic unfolds, inaccurate medical information has flooded social media and other channels. One potentially lethal example is that patients who take renin-angiotensin system (RAS)

blockers, particularly angiotensin II type 1 receptor blockers (ARBs), may be more susceptible to the virus.

However, in an article published in the American Heart Association journal *Hypertension*, Murray Epstein, M.D., emeritus professor of medicine at the University of Miami Miller School of Medicine, and colleagues warn there is little credible or consistent evidence to back up this concern. Equally important, foregoing these important medications would dramatically increase [health risks](#) for hundreds of millions of patients with hypertension, congestive heart failure, and [chronic kidney disease](#).

"The only thing we can conclude definitively, based on all the known data, is that there is no credible evidence whatsoever that ARBs enhance susceptibility to COVID," said Dr. Epstein, who edits the only medical textbook that focuses exclusively on ARBs.\*

In the article "Renin-angiotensin system (RAS) blockers and the COVID-19 pandemic: at present there is no evidence to abandon RAS blockers," Dr. Epstein and coauthors Jan Danser, Ph.D., of Erasmus Medical Center in Rotterdam, and Daniel Batlle, M.D., at Northwestern University, carefully reviewed the available data to determine whether ARBs pose any significant risk.

They note the concern originated from reports that the angiotensin-converting enzyme 2 (ACE 2) protein receptor may enable viral entry into cells. Amplified by various media, this led some patients to discontinue their medications—either on their own or based on advice from a physician.

However, the evidence that ARBs may increase COVID-19 risk is inconsistent, at best. Though some studies have shown ARBs increase ACE 2 activity in animal models, it must be emphasized that the results

have been inconsistent.

"People are making an unadvised leap," said Dr. Epstein. "The logic goes that, if it enhances penetrability, it enhances susceptibility to the disease, but that's a dangerous conclusion. What investigators have found varies widely, depending on the organ studied, the experimental [animal model](#) and the ARB being used in the study. In summary, there is a complete lack of consistency."

While there is no credible evidence that ARBs increase COVID-19 risk, Dr. Epstein notes there are clear dangers for patients who stop taking their medications. ARBs are prescribed for [high blood pressure](#), [congestive heart failure](#), kidney disease and other conditions. Widespread discontinuation of ARBs and ACE inhibitors could cause destabilization of blood pressure control and decompensation of heart failure patients, leading to sharp increases in heart attacks and strokes and a worsening of kidney failure.

"This would be a double tragedy, because it would be happening precisely at a time when our hospital and ICU resources are stressed to the limit," said Dr. Epstein. "It will further tax our medical facilities and hospitals, and it will be truly tragic."

**More information:** A.H. Jan Danser et al, Renin-Angiotensin System Blockers and the COVID-19 Pandemic, *Hypertension* (2020). [DOI: 10.1161/HYPERTENSIONAHA.120.15082](#)

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