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Ibuprofen or Acetaminophen to Treat Fever Associated with the Novel Coronavirus? A Physician Weighs In

Physician answers questions about the novel coronavirus and the use of ibuprofen, acetaminophen and chloroquine.

Physicians are warning the public about the dangers of self-medicating to ease symptoms of the novel coronavirus. Will Heise, MD, an assistant professor in the Division of Clinical Data Analytics and Decision Support at the University of Arizona College of Medicine – Phoenix, discusses what the public needs to know about self-medicating during the outbreak.



Does ibuprofen make Covid-19 symptoms worse or could it help?

There is a lot of discussion on social media about ibuprofen and other medications worsening a Covid-19 infection.

This controversy arose from a letter published in *The Lancet Respiratory Medicine* by Fang, Karakiulakis and Roth. They discussed 52 ICU patients with Covid-19. They hypothesized that increased expression of an enzyme called ACE2 in patients with hypertension, diabetes and artery disease caused increase risk of infection and a higher risk of severe infection. It's important to note this is a guess based on logical reasoning and understanding of the underlying physiology.

ACE2 is one of the two enzymes that Covid-19 binds to in order to enter the cell. All humans have it. There are different kinds among us. Some common medications, such as ACE inhibitors (lisinopril), ARBs (losartan), thiazolidinediones (hydrochlorothiazide or HCTZ) and ibuprofen may increase the expression of ACE2 on cells, including kidney and lung cells. This in itself is controversial.

However, animal data on whether this increased expression of ACE2 causes more likely or worse disease sends utterly and entirely mixed signals. Human studies on this are mixed, with some saying taking one of these medications might actually help when someone has pneumonia. Older people, who appear to get much more ill than younger ones, generally have less ACE2. ACE2 manipulation represents a possible target for treating Covid-19, but this is being studied.

Short version, we don't know.

What are current recommendations regarding ibuprofen?

The World Health Organization does not recommend against using ibuprofen, given there are no published clinical or population-based trials. U.S. societies who treat the disease associated with ACE2 are not recommending anyone stop these medications.

What would I personally do? I'd start by treating my fever with acetaminophen. If that didn't work, I'd take ibuprofen.

How can self-medicating with chloroquine phosphate damage your health?

Chloroquine phosphate is best known as a decades-old anti-malarial drug. It has made recent news after a patient died and his wife was in critical condition after they self-medicated with chloroquine phosphate as a possible cure for the coronavirus. Chloroquine in the wrong dose is deadly. It causes heart disturbances, low blood sugar, low blood pressure and seizures.

What do health experts want the public to know about this?

Don't take chloroquine that you find yourself or obtain from a non-medical source, as the purity and concentration is rarely known. Even in trained hands, this is a dangerous medication.

There seems to be a lot of misinformation about medications you can and cannot take. What do physicians recommend?

You can take Tylenol, or acetaminophen. If that doesn't control your fever, it is reasonable to take ibuprofen. Don't take anything not prescribed by a physician. If admitted to the hospital, you may be given hydroxychloroquine and azithromycin, or one of the new anti-viral agents.