

# Vitamins C and D Finally Adopted as Coronavirus Treatment

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✓ Fact Checked

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## STORY AT-A-GLANCE

- › Vitamins C and D were adopted in the conventional treatment of novel coronavirus, SARS-CoV-2. This fortunate turn of events is likely to save thousands of lives, while keeping health care costs down
- › During the pandemic, seriously ill coronavirus patients in New York state's largest hospital system received 1,500 milligrams of intravenous vitamin C three to four times a day, in conjunction with other conventional treatments
- › Vitamin C at extremely high doses acts as an antiviral drug, actually killing viruses
- › In recent articles, former CDC chief Dr. Tom Frieden and Dr. John C. Umhau, a public health specialist at NIH, highlight the usefulness of sun exposure and/or vitamin D supplementation to reduce your risk of SARS-CoV-2 infection
- › Although vitamin D does not appear to have a direct effect on viruses, it does strengthen immune function, thus allowing the host body to combat the virus more effectively. It also suppresses inflammatory processes

Remember when Washington Post reporters were boldly declaring that vitamins C and D could not (and should not) be used against respiratory infections? The information I was sharing about their use was deemed so dangerous to public health that I was branded as a "fake news" site by self-appointed, pharma-owned arbiters of truth like NewsGuard.

How times have changed. After having defamatory lies published about me, vitamins C and D are now (finally) being adopted in the conventional treatment of novel

coronavirus, SARS-CoV-2.

That just goes to show that when push comes to shove, the truth eventually prevails. When the medicine cabinet is empty, and doctors have limited options, suddenly the basics become viable again, and that is good news indeed, as it's likely to save thousands of lives, while keeping health care costs down.

## **Vitamin C Treatment Implemented for Coronavirus Infection**

As reported by the New York Post, March 24, 2020:<sup>1</sup>

*"Seriously sick coronavirus patients in New York state's largest hospital system are being given massive doses of vitamin C ... Dr. Andrew G. Weber, a pulmonologist and critical-care specialist affiliated with two Northwell Health facilities on Long Island, said his intensive-care patients with the coronavirus immediately receive 1,500 milligrams of intravenous vitamin C.*

*Identical amounts of the powerful antioxidant are then re-administered three or four times a day, he said ... The regimen is based on experimental treatments administered to people with the coronavirus in Shanghai, China ...*

*'The patients who received vitamin C did significantly better than those who did not get vitamin C,' he said. 'It helps a tremendous amount, but it is not highlighted because it's not a sexy drug' ...*

*Weber ... said vitamin C levels in coronavirus patients drop dramatically when they suffer sepsis, an inflammatory response that occurs when their bodies overreact to the infection. 'It makes all the sense in the world to try and maintain this level of vitamin C,' he said."*

A Northwell Health spokesperson reportedly confirmed that vitamin C treatment was being "widely used" against coronavirus within the 23-hospital system. According to Weber, vitamin C was used in conjunction with the antimalarial drug hydroxychloroquine

and the antibiotic azithromycin, which have also shown promise in coronavirus treatment.<sup>2</sup>

## **Vitamin C Is a Vastly Underutilized Antiviral 'Drug'**

According to Dr. Ronald Hunninghake, an internationally recognized expert on vitamin C who has personally supervised tens of thousands of intravenous (IV) vitamin C administrations, vitamin C is "definitely a very underutilized modality in infectious disease," considering "it's really a premiere treatment" for infections.

In my interview with him, Hunninghake suggested one of the reasons why conventional medicine has been so slow to recognize the importance of vitamin C has to do with the fact that they've been looking at it as a mere vitamin, when in fact it's a potent oxidizing agent that can help eliminate pathogens when given in high doses.

There are also financial factors. In short, it's too inexpensive. Conventional medicine, as a general rule, is notoriously uninterested in solutions that cannot produce significant profits. One of the primary reasons we started seeing its use against COVID-19 is undoubtedly because at the time we had no expensive drugs in the medical arsenal that could be turned to.

In my March 17, 2020, [interview with Dr. Andrew Saul](#), editor-in-chief of the Orthomolecular Medicine News Service, he mentions being in contact with a South Korean medical doctor who was giving patients and medical staff an injection of 100,000 IUs of vitamin D along with as much as 24,000 mg (24 grams) of IV vitamin C. "He's reporting that these people are getting well in a matter of days," Saul says.

As explained by Saul, vitamin C at extremely high doses acts as an antiviral drug, actually killing viruses. While it does have anti-inflammatory activity, which helps prevent the massive cytokine cascade associated with severe SARS-CoV-2 infection, it's antiviral capacity likely has more to do with it being a non-rate-limited free radical scavenger. As explained by Saul in our interview:

*"Cathcart's view is that you simply push in vitamin C to provide the electrons to reduce the free radicals. This is the way Cathcart and Levy look at vitamin C's function (at very high doses) as an antiviral.*

*At modest doses, normal supplemental doses ... vitamin C strengthens the immune system because the white blood cells need it to work. White blood cells carry around in them a lot of vitamin C ... So, vitamin C is very well-known to directly beef up the immune system through the white blood cells."*

## **Vitamin C Effectively Treats Sepsis**

Although the vitamin C protocol is new for COVID-19 treatment, it's been used as a treatment for sepsis since about 2017. The vitamin C-based sepsis treatment protocol was developed by Dr. Paul Marik, a former critical care doctor at Sentara Norfolk General Hospital in East Virginia, which has since adopted it as standard of care for sepsis.

Marik's retrospective before-after clinical study<sup>3</sup> published in 2016 showed giving patients 200 milligrams (mg) of thiamine every 12 hours, 1,500 mg of ascorbic acid every six hours, and 50 mg of hydrocortisone every six hours for two days reduced mortality from 40% to 8.5%.

Importantly, the treatment has no side effects and is inexpensive, readily available and simple to administer, so there's virtually no risk involved. In 2009, IV vitamin C was shown to be a potentially lifesaving treatment for severe swine flu, so it's understandable why both Chinese and American doctors hold hope for it with the coronavirus.

A clinical trial was submitted for it at ClinicalTrials.gov in early 2020,<sup>4</sup> but the trial was terminated when the number of qualifying COVID-19 patients decreased. Other research,<sup>5,6</sup> published online January 9, 2020, found Marik's sepsis protocol lowered mortality in pediatric patients as well.

The study was performed at Ann & Robert H. Lurie Children's Hospital of Chicago, and as noted by Science Daily,<sup>7</sup> the preliminary data from this study "supports the promising outcomes seen in adults."

## **Vitamin C Highlighted During SARS Pandemic**

Back in 2003, during the SARS pandemic, a Finnish researcher called<sup>8</sup> for an investigation into the use of vitamin C after research showed it not only protected broiler chicks against avian coronavirus, but also cut the duration and severity of common cold in humans and significantly lowered susceptibility to pneumonia. In his letter, published in the Journal of Antimicrobial Chemotherapy, Harri Hemilä wrote:<sup>9</sup>

*"Recently, a new coronavirus was identified as the cause of the severe acute respiratory syndrome (SARS). In the absence of a specific treatment for SARS, the possibility that vitamin C may show nonspecific effects on several viral respiratory tract infections should be considered.*

*There are numerous reports indicating that vitamin C may affect the immune system, for example the function of phagocytes, transformation of T lymphocytes and production of interferon. In particular, vitamin C increased the resistance of chick embryo tracheal organ cultures to infection caused by an avian coronavirus."<sup>10</sup>*

Even before that, many studies had demonstrated the usefulness of vitamin C against infections of various kinds. For example, a randomized double-blind study<sup>11</sup> published in 1994 found elderly patients given 200 milligrams of vitamin C per day while hospitalized for acute respiratory infection fared significantly better than those receiving a placebo.

According to the authors, "This was particularly the case for those commencing the trial most severely ill, many of whom had very low plasma and white cell vitamin C concentrations on admission."

## **Surprising Admission by CDC Chief About Vitamin D**

Another powerful component in the prevention and treatment of influenza is vitamin D. Although vitamin D does not appear to have a direct effect on the virus itself, it does strengthen immune function, thus allowing the host body to combat the virus more effectively. It also suppresses inflammatory processes. Taken together, this might make vitamin D useful against SARS-CoV-2 infection.

My claim that vitamin D can cut infection risk was publicly vindicated March 24, 2020, when former U.S. Centers for Disease Control and Prevention chief Dr. Tom Frieden published an opinion piece on Fox News stating that "Coronavirus infection risk may be reduced by vitamin D."<sup>12</sup> In it, Frieden writes:

*"There are many crackpot claims about miracle cures floating around, but the science supports the possibility – although not the proof – that Vitamin D may strengthen the immune system, particularly of people whose Vitamin D levels are low.*

*Vitamin D supplementation reduces the risk of respiratory infection, regulates cytokine production and can limit the risk of other viruses such as influenza.*

*A respiratory infection can result in cytokine storms – a vicious cycle in which our inflammatory cells damage organs throughout the body – which increase mortality for those with COVID-19. Adequate vitamin D may potentially provide some modest protection for vulnerable populations ...*

*Right now, we don't know if vitamin D deficiency plays any role in the severity of COVID-19. But given the high prevalence of vitamin D deficiency in this country, it is safe to recommend that people get the proper daily dosage of vitamin D.*

*Most people's bodies manufacture vitamin D in the skin when exposed to the sun. About 15 minutes a day of direct sunlight is sufficient for many people's bodies to manufacture enough vitamin D; people with darker skin need longer exposure to sunlight to manufacture the same amount.*

*In winter, people in northern latitudes may not be able to make any vitamin D from sunlight. Sunscreen lengthens the exposure time needed. Many people, then, need vitamin D supplementation."*

## **Public Health Specialist Weighs in on Vitamin D**

Similarly, in a March 25, 2020, MedPage Today article,<sup>13</sup> Dr. John C. Umhau writes:

*"As a public health specialist at the National Institutes of Health, I outlined how a lack of sun-induced vitamin D in the winter and early spring leads to epidemic acute respiratory infections (and this probably includes viruses like COVID-19).*

*That review, cited almost a thousand times, argued that groups with low vitamin D levels – the obese and the elderly and those with dark skin – may require 5,000 IU of vitamin D each day to obtain the 25-hydroxyvitamin D levels of 50 ng/mL that appear to protect against viral respiratory infection.*

*A government-sponsored research strategy to address this issue has not been developed, as officials explained that there was no mandate to explore an alternative to the existing vaccination program.*

*However, other researchers picked up the ball and provided convincing evidence that vitamin D could reduce the incidence of acute respiratory infection."*

While Umhau specifies a daily dosage, it's crucial to remember that required dosages can vary widely from one person to another, and that the most important factor here is your blood level. You simply must adjust the vitamin D dose based on your specific recently measured vitamin D level.

I haven't swallowed oral vitamin D for over a decade and my D level is over 70 ng/mL, as I walk in the sun nearly every day for one hour with my shirt off. I take no supplemental vitamin D. For those who are unable to get sun exposure and have low levels, doses of

vitamin D3 may be 10,000 units a day or even higher, but the only way to know is to measure your blood levels.

For that, you must get tested, and then take whatever dosage required to get into the ideal range. While 50 ng/mL may be sufficient, I recommend a vitamin D level between 60 ng/mL and 80 ng/mL for optimal health and disease prevention. GrassrootsHealth's D\*Action research has shown you need at least 40 ng/mL to lower your risk of many diseases.<sup>14</sup>

In his article Umhau cites a 2017 meta-analysis<sup>15</sup> of 25 randomized controlled trials showing vitamin D supplementation helped prevent acute respiratory infections. Those with vitamin D blood levels below 10 ng/mL, which is a serious deficiency state, cut their risk of infection by half, while people with higher vitamin D levels reduced their risk by about 10%.

Importantly, they found that, among those with severe vitamin D deficiency at baseline, you only need to treat four individuals in order to prevent one infection. That's FAR more effective than influenza vaccination, which requires 71 individuals to be vaccinated in order to prevent a single case of influenza.<sup>16</sup>

According to this international research team, vitamin D supplementation could prevent more than 3.25 million cases of cold and flu each year in the U.K. alone.<sup>17</sup> In my view, optimizing your vitamin D levels is one of the absolute best strategies available to prevent respiratory illness of all kinds.

## **Sun Exposure Recommended**

Umhau also points out that:<sup>18</sup>

*"Critical care research<sup>19</sup> also documents the important effect of vitamin D on survival in ICU patients with acute respiratory distress syndrome. There are several mechanisms by which vitamin D activity is critical for immune defense: vitamin D acts to maintain tight junctions, promote the effect of antimicrobial*

*peptides (i.e., cathelicidin and defensins), and moderate the inflammatory response.<sup>20</sup>*

*Aggressively identifying and treating people with vitamin D deficiency is one potential strategy to reduce the risk of COVID-19. As outlined in the BMJ review, regularly taking oral vitamin D3 mitigates infection, although the optimal oral dose is debatable.*

*Bolus doses do not appear to provide benefit against infection, possibly through a dysregulation of vitamin D metabolism. There may be a simple yet effective alternative.*

*Since exposing the whole body to bright sunlight can provide long-lasting and rapid correction of deficiency, this may provide a critical boost to host immune defenses. Lacking definitive research, any risk of exposing the body to sunshine while sheltering in place is clearly outweighed by the risk of COVID-19."*

## **Vitamins C and D Recommendations**

Based on the available scientific evidence, there's no reason to ignore vitamins C and D for the prevention and treatment of COVID-19 and other respiratory infections.

Remember to test your vitamin D level. Do it at home and stay away from hospitals unless you're already having symptoms of worsening respiratory infection, such as difficulty breathing. The level you're aiming for is 60 ng/mL.

GrassrootsHealth makes testing easy by offering an inexpensive vitamin D testing kit as part of its consumer-sponsored research. All revenues from these kits go directly to GrassrootsHealth. I make no profit from these kits and only provide them as a service of convenience to my readers.

Vitamin C is also a crucial aid, both for the prevention and treatment of viral illnesses. You can find pertinent reports and research about vitamin C against COVID-19 on the Orthomolecular Medicine News Service website.<sup>21</sup> I recommend using liposomal vitamin

C, as it allows you to take far higher dosages than regular vitamin C (as regular vitamin C is limited by your bowel tolerance).

Dr. Robert Rowen, whom I interviewed about the use of vitamin C and ozone therapy for COVID-19, suggests taking upward of 6 grams (6,000 mg) per hour for acute illness, to simulate intravenous administration levels. Prophylactically, it is not recommended to take such high doses.

The only contraindication to high-dose vitamin C treatment is if you are glucose-6-phosphate dehydrogenase (G6PD) deficient, which is a genetic disorder.<sup>22</sup> G6PD is required for your body to produce NADPH, which is necessary to transfer reductive potential to keep antioxidants, such as vitamin C, functional.

Because your red blood cells do not contain any mitochondria, the only way it can provide reduced glutathione is through NADPH, and since a deficiency of G6PD eliminates this, it causes red blood cells to rupture due to inability to compensate for oxidative stress.

Fortunately, G6PD deficiency is relatively uncommon, and can be tested for. People of Mediterranean and African descent are at greater risk of being G6PD deficient. Worldwide, G6PD deficiency is thought to affect 400 million individuals, and in the U.S., an estimated 1 in 10 African-American males has it.<sup>23</sup> Be sure to read this Thursday's lead article on one of the most important preventive and therapeutic strategies for COVID-19.

## Sources and References

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- <sup>1, 2</sup> [Virginia Commonwealth Internal Medicine Publications. 2014](#)
- <sup>3</sup> [Chest 2016. doi:10.1016/j.chest.2016.11.036](#)
- <sup>4</sup> [Clinicaltrials.gov Identifier NCT04264533](#)
- <sup>5</sup> [American Journal of Respiratory and Critical Care Medicine January 9, 2020 \[Epub ahead of print\]](#)
- <sup>6, 7</sup> [Science Daily January 22, 2020](#)
- <sup>8, 9</sup> [Journal of Antimicrobial Chemotherapy December 2003; 52\(6\): 1049-1050](#)
- <sup>10</sup> [Archives of Virology 1978;56\(3\):195-9](#)
- <sup>11</sup> [Int J Vitam Nutr Res. 1994;64\(3\):212-9](#)
- <sup>12</sup> [Fox News March 24, 2020](#)

- <sup>13, 18</sup> [MedPage Today March 25, 2020](#)
- <sup>14</sup> [GrassrootsHealth, Let's Level the Playing Field With Vitamin D](#)
- <sup>15</sup> [BMJ 2017; 356:i6583](#)
- <sup>16</sup> [Cochrane.org](#)
- <sup>17</sup> [BBC.com February 16, 2017](#)
- <sup>19</sup> [Thorax 2015;70:617-624](#)
- <sup>20</sup> [Preprints, Version 1: Vitamin D Supplementation Could Prevent and Treat Influenza, Coronavirus, and Pneumonia Infections](#)
- <sup>21</sup> [Orthomolecular Medicine News Service](#)
- <sup>22, 23</sup> [NIH.gov Glucose-6-Phosphate Dehydrogenase Deficiency](#)