

Growing evidence shows proper Vitamin D levels help fight severity of illness, mortality rates.

# The Role of Vitamin D in the COVID-19 Pandemic

**SEKISUI**  
DIAGNOSTICS

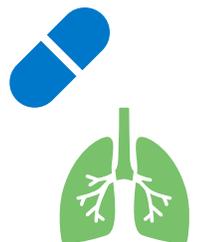
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## When global scientists and researchers began sequencing the complete genome of SARS-CoV-2, the virus that causes COVID-19, they were racing to find treatment solutions for the novel coronavirus. Potential treatments were being investigated daily, including research of common vitamin sufficiency. Vitamin C and Zinc have long been known to boost immune system health, which could help against this respiratory illness. But how big could Vitamin D's role be in combating the effects of COVID-19?

Somewhat surprisingly, researchers have discovered a strong correlation between severe Vitamin D deficiency and mortality rates in COVID-19. Hospitals and clinics in China, France, Germany, Italy, Iran, South Korea, Spain, Switzerland, the United Kingdom and the United States have noted patients with lower levels of Vitamin D had higher mortality rates than patients who were not deficient in Vitamin D.

Unexplained differences in COVID-19 mortality rates from country to country originally led researchers to examine Vitamin D levels and cytokine storm – a hyperinflammatory condition caused by an overactive immune system – and a correlation between Vitamin D deficiency and mortality. For example, patients from Italy, Spain and the United Kingdom had lower levels of Vitamin D compared to patients in other countries, and they also had higher mortality rates. Patients in [Norway, Finland and Sweden had higher Vitamin D levels](#) despite less sunlight exposure than Italy and Spain because supplementation and fortification of foods is more common in these Nordic countries.

The correlation between low Vitamin D levels, cytokine storm and death from COVID-19 is statistically significant. Cytokine storm can severely damage lungs and lead to acute respiratory distress syndrome, and this is what seems to be the cause of most COVID-19 related deaths. However, Vitamin D enhances the immune system and helps prevent the immune system from becoming dangerously overactive. It won't prevent a patient from contracting COVID-19, but according to some recent studies, it [might cut the mortality rate of COVID-19 in half](#) and reduce complications.



Researchers note that [Vitamin D deficiency is more prevalent in African American patients and elderly patients](#) – two populations that have been most affected by COVID-19.

### How many people are vitamin D deficient?

Vitamin D deficiency is very common as an estimated 1 billion people worldwide have low levels of Vitamin D in their blood. About [42% of adults in the United States are deficient](#), and this percentage jumps to 69% in Hispanics and 82% in African Americans. Exposure to sunlight each day helps the human body to manufacture the required amount of Vitamin D, but most people avoid sun exposure due to the fear of developing skin cancer. [To prevent Vitamin D deficiency, one should spend 15 to 20 minutes daily in the sunlight with 40% of the skin surface exposed.](#)



High concentration of melanin in the skin slows the production of Vitamin D and aging greatly reduces skin production of Vitamin D. The amount of Vitamin D your skin makes also depends on the time of day, season and latitude. It may decrease or be completely absent during winter months, depending upon lifestyle.

## Vitamin D supplementation

To make it even more challenging, Vitamin D isn't found in many foods. However, it can be found in fortified milk, fortified cereal and fatty fish like salmon, mackerel and sardines. The recommended daily amount of Vitamin D is 400 international units (IU) for children up to 12 months, 600 IU for ages 1 to 70, and 800 IU for ages over 70 years. Taking a multi-vitamin with Vitamin D will likely help older adults who don't get regular exposure to sunlight, have trouble absorbing Vitamin D and are at higher risk for developing osteoporosis. Vitamin D is generally considered safe when taken in [appropriate doses](#).

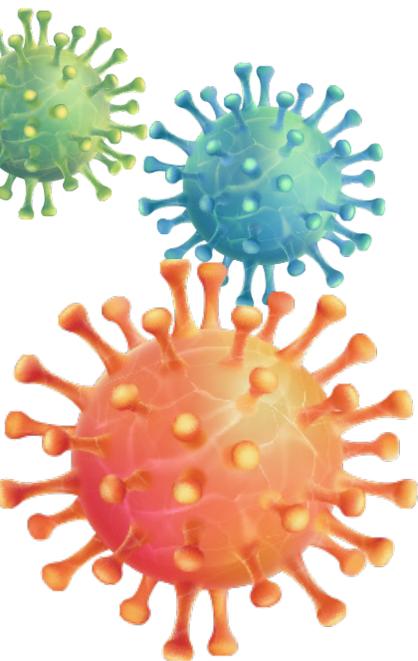
## The FastPack® IP Vitamin D Immunoassay

With so many U.S. adults Vitamin D deficient, it's important to test for Vitamin D sufficiency especially now with its links to increased COVID-19 mortality.

SEKISUI Diagnostics offers a quantitative Vitamin D point-of-care (POC) test that can be easily run on the [FastPack® IP System](#). It can be performed at the doctors' office with the test and treat approach, where discussion about treatment can begin directly after testing is completed during the patient's consultation.

The [FastPack® IP Vitamin D Immunoassay](#) is intended for the quantitative determination of total 25-hydroxyvitamin D and other hydroxylated metabolites in human serum and plasma to aid in the assessment of Vitamin D sufficiency in adults. The FastPack® IP Vitamin D immunoassay is designed for use with the FastPack® IP System. It features laboratory quality quantitative results, ease of use and fast results in 15 minutes.

The FastPack® IP Vitamin D immunoassay is available in the U.S., Canada, Europe, Middle East and Africa. Providers should encourage patients to discuss concerns that may be related to any kind of vitamin deficiency before patients add any type of supplements to their diet.



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