

To Sequester Or Not: Vitamin D Part1

| Test Name | Result | Reference Range |
|--------------------------|------------------|-----------------|
| VITAMIN D,25-OH,TOTAL,IA | 58 | 30-100 ng/mL |
| Vitamin D Status | 25-OH Vitamin D: | |
| Deficiency: | <20 ng/mL | |
| Insufficiency: | 20 - 29 ng/mL | |
| Optimal: | > or = 30 ng/mL | |

Bottom line: make sure your blood vitamin D level is above 30ng/ml

Numerous studies show a strong correlation between vitamin D sufficiency and severity of infection.

25-Hydroxyvitamin D Concentrations Are Lower in Patients with Positive PCR for SARS-CoV-2.

Nutrients 2020, 12(5), 1359; <https://doi.org/10.3390/nu12051359>. Received: 20 April 2020 / Revised: 6 May 2020 / Accepted: 7 May 2020 / Published: 9 May 2020

In this cohort, significantly lower 25(OH)D levels were found in PCR-positive patients for SARS-CoV-2 compared with negative patients; this was also confirmed by stratifying patients according to age >70 years.

Vitamin D deficiency as risk factor for severe COVID-19: a convergence of two pandemics.

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“We show that vitamin D deficiency is correlated with the risk for hospitalization for COVID-19 pneumonia and predisposes to more advanced radiological disease stages. This correlation was not confounded by vitamin D-impacted morbidities such as coronary artery disease, diabetes and chronic lung disease. Our findings support a causal relation between vitamin D deficiency and

severe COVID-19 and call for vitamin D supplementation as safe, widely available and inexpensive mitigation strategy”.

Vitamin D Level of Mild and Severe Elderly Cases of COVID-19: A Preliminary Report. El James Glicio, MD*; Siddharth Neelam, MD; Rajeev Rashi, MD; Deepak Ramya, MD

The majority of the subjects had 25(OH)D levels below 30 ng/ml. Age and 25(OH)D level were negatively related.

Patterns of COVID-19 Mortality and Vitamin D: An Indonesian Study. Prabowo Raharusuna*, Sadiyah Priambada, Cahni Budiarti, Erdie Agung, Cipta Budi April 26, 2020. Available at SSRN: <https://ssrn.com/abstract=3585561> or <http://dx.doi.org/10.2139/ssrn.3585561>

The majority of the COVID-19 cases with insufficient and deficient Vitamin D status died. The odds of death was higher in older and male cases with pre-existing condition and below normal Vitamin D levels. *When controlling for age, sex, and comorbidity, Vitamin D status is strongly associated with COVID-19 mortality.*

Association of Vitamin D Deficiency and Treatment with COVID-19 Incidence. David O Meltzer, Thomas J Best, Hui Zhang, Tamara Vokes, Vineet Arora, Julian Solway. doi: <https://doi.org/10.1101/2020.05.08.20095893>

Vitamin D deficiency that is not sufficiently treated is associated with COVID-19 risk. Testing and treatment for vitamin D deficiency to address COVID-19 warrant aggressive pursuit and study.

Alipio, Mark, Vitamin D Supplementation Could Possibly Improve Clinical Outcomes of Patients Infected with Coronavirus-2019 (COVID-19) (April 9, 2020). Davao del Sur, Philippines

A multinomial logistic regression analysis reported that for each standard deviation increase in serum 25(OH)D, the odds of having a mild clinical outcome rather than a severe outcome or critical outcome were increased approximately 7.94 times and 19.61 times, respectively.

The Possible Role of Vitamin D in Suppressing Cytokine Storm and Associated Mortality in COVID-19 Patients Ali Daneshkhah, Vasundhara Agrawal, Adam Eshein, Hariharan Subramanian, Hemant Kumar Roy, Vadim Backman. Posted May 18, 2020

Patients with normal vitamin D levels were nearly 16 percent less likely to experience a severe outcome with COVID-19 than patients with vitamin D deficiency.

Vitamin D insufficiency is prevalent in severe COVID-19. Frank H. Lau, Rinku Majumder, Radbeh Torabi, Fouad Saeg, Ryan Hoffman, Jeffrey D. Cirillo, Patrick Greiffenstein. Posted April 28, 2020.

Factors that increase the risk of death due to COVID-19, including hypertension, obesity, male sex, advanced age, living at a northern latitude, and coagulopathy, are also associated with vitamin D deficiency. Vitamin D insufficiency prevalence in ICU patients was 84.6%, vs. 57.1% in floor patients. Strikingly, 100% of ICU patients less than 75 years old had vitamin D insufficiency.

Scientific Strabismus' or Two Related Pandemics: COVID-19 & Vitamin D Deficiency. Murat Kara¹, Timur Ekiz, Vincenzo Ricci, Özgür Kara, Ke-Vin Chang and Levent Özçakar. Br J Nutr. 2020 May 12 : 1–6.

“We would like to call attention to the possible association between severe vitamin D deficiency and mortality pertaining to COVID-19. Given its rare side effects and relatively wide safety, prophylactic vitamin D supplementation and/or food fortification might reasonably serve as a very convenient adjuvant therapy for these two worldwide public health problems alike.”

A cohort study to evaluate the effect of combination Vitamin D, Magnesium and Vitamin B12 (DMB) on progression to severe outcome in older COVID-19 patients. Chuen Wen Tan, Liam Pock Ho, Shirin Kalimuddin, Benjamin Pei Zhi Cherng, Yii Ean Teh, Siew Yee Thien, Hei Man Wong, Paul Jie Wen Tern, Jason Wai Mun Chay, Chandramouli Nagarajan, Rehena Sultana, Jenny Guek Hong Low, Heng Joo Ng. Posted June 10, 2020.

Among 43 men and women age 50 or older hospitalized with COVID-19 those who were started on a daily oral dose of vitamin D3 (1000 IU), magnesium (150 mg) and vitamin B12 (500 mcg) within the first day of hospitalization and continued for up to 14 days were significantly less likely to require oxygen therapy and further intensive care.

Dr. Kuttner's commentary: This last paper is particularly important as it points out the need for complementary nutrients necessary to enhance the body's utilization of vitamin D as well as other parameters of metabolism. While optimizing one's vitamin D level ASAP is a high priority, for the

long term I never prescribe vitamin D without vitamin K2MK7. Vitamin A and magnesium are also important to improve the immune enhancing effects of vitamin D. Whenever possible I obtain information from blood testing in order to implement proper dosing protocols.