

January 14th, 2020



Commissioner Jan Malcolm
Minnesota Department of Health
P.O. BOX 64975
St. Paul, MN 55164-0975

Dear Commissioner Malcolm,

As the COVID-19 health crisis continues, the Minnesota Association of Naturopathic Physicians (MNANP) acknowledges the work that public health officials are performing to slow the spread and improve outcomes. We sincerely appreciate your efforts to keep Minnesotans safe and healthy.

The coronavirus infection is widespread and, despite current efforts, case counts in our state continue to escalate. Preparing Minnesotans for the challenging months ahead requires a comprehensive approach to ease the adverse effects of COVID-19. We believe Minnesotans must use all of the tools at their disposal to improve health outcomes and endure this pandemic: hygiene, physical distancing, testing, and vaccination.

Currently, we know that hundreds of thousands of Minnesotans suffer from pre-existing conditions such as diabetes and heart disease and that this puts them at a higher risk for adverse outcomes from COVID-19. As naturopathic doctors, we integrate natural medicines into patient care and address these underlying health conditions to improve health outcomes.

We request that you add a recommendation for cholecalciferol (vitamin D3) supplementation to the public health recommendations for COVID-19. Vitamin D3 is a safe, affordable, and easily accessible supplement to add to the current guidelines and improve outcomes for Minnesotans. Our request for Minnesotans to supplement vitamin D3 aims to reduce morbidity and mortality, especially for people at a higher risk for a deficiency, such as people of color and other vulnerable citizens.

Vitamin D is crucial for overall immune health based on a widespread understanding of vitamin D's actions on the immune system. And the case for an essential role of vitamin D in innate and adaptive immune responses to viral respiratory infections is growing.¹⁻³

The Center for Disease Control and Prevention lists independent risk factors for a more severe illness from the virus that causes COVID-19 disease.⁴ Vitamin D3 deficiency, while modifiable, is not currently recognized as a risk factor. However, emerging research suggests that vitamin D3 may be a therapeutic intervention for COVID-19.⁵ A large cohort study reveals nearly double the

risk of developing a COVID-19 infection with low serum 25-OH vitamin D (vitamin D) identified in the previous year,⁶ a similar study in progress also reveals increased odds of COVID-19 with vitamin D3 deficiency.⁷ Vitamin D3 deficiency also increases the odds of a longer hospital stay and the odds of being hospitalized compared with non-deficient individuals.^{8,9} Increased odds of death with lower serum vitamin D is also reported.^{9,10}

We believe that the evidence supports vitamin D3 supplementation as a safe and effective recommendation to improve COVID-19 outcomes for Minnesotans. The wide availability of Vitamin D3 and low cost makes this potential recommendation a powerful tool for even the most vulnerable Minnesotans.

Low serum vitamin D status correlates in all skin types with lack of sun exposure to skin and insufficient dietary intake, but individuals with Fitzpatrick skin type V (brown) have even higher requirements.¹¹ In North America, 42% of the adult population is vitamin D deficient, with African-Americans at 82% and Hispanics at 63%.¹² Each year, the winter season in North America brings an increase in respiratory illness and a decrease in sun exposure that reduces the production of vitamin D3.^{13,14} The coming winter brings the additional risks of COVID-19 to a seasonal increase in respiratory infections that may continue to disproportionately impact communities of color at least in part due to a lack of vitamin D production and intake.

Wales, Scotland, and England took the available evidence and recommended supplementing with 400IU of vitamin D3 daily between October and March.¹⁵⁻¹⁸ Public Health England also plans to dispense a four-month supply of this supplement to 2.5 million nursing home residents and clinically vulnerable citizens in January.¹⁵ Our general population recommendation is based on naturopathic clinical experience titrating vitamin D3 dosages based on serum vitamin D levels. Our proposed recommended dose of vitamin D3 for untested adults is 1,000 IU per day (taken with food). Higher doses may be considered for specific populations including people of color, people with low serum vitamin D levels, and individuals with little direct sunlight exposure during the year. These higher doses are recommended to be overseen by a health care provider. However, the risk for hypervitaminosis at less than 10,000 IU cholecalciferol taken orally per day is at or near zero.^{19,20}

We believe that the available evidence supports vitamin D3 supplementation as a public health recommendation that can reduce COVID-19 morbidity and mortality in Minnesota and around the globe.⁹ This safe and accessible intervention may mitigate the severity of infection, reduce hospitalization, and save lives.⁹

Your leadership during this public health emergency is commendable. We ask that you consider our request to improve health outcomes associated with COVID-19 for Minnesotans. The MNANP is available for questions or comments regarding this request. We are happy to be of service to Minnesota communities.

Respectfully,

Minnesota Association of Naturopathic Physicians

Phone: (612) 351-2210

[E-mail:president@mnanp.org](mailto:president@mnanp.org)

Cc: Rep. Tina Liebling, Chair, House Health and Human Services Finance Committee

Sen. Michelle Benson, Chair, Senate Health and Human Services Finance Committee

Ruth Martinez, Executive Director, Minnesota Board of Medical Practice

Hali Kolkind, Policy Adviser to Governor Tim Walz

Lisa Thimjon, Legislative Director, Minnesota Department of Health

Bibliography

1. Gunville C, Mourani P, Ginde A. The Role of Vitamin D in Prevention and Treatment of Infection. *Inflamm Allergy-Drug Targets*. 12(4):239-245. [doi:10.2174/18715281113129990046](https://doi.org/10.2174/18715281113129990046)
2. Hansdottir S, Monick MM. Vitamin D Effects on Lung Immunity and Respiratory Diseases. In: *Vitamins and Hormones*. Vol 86. ; 2011:217-237. [doi:10.1016/B978-0-12-386960-9.00009-5](https://doi.org/10.1016/B978-0-12-386960-9.00009-5)
3. Fabbri A, Infante M, Ricordi C. Editorial - Vitamin D status: a key modulator of innate immunity and natural defense from acute viral respiratory infections. *Eur Rev Med Pharmacol Sci*. 2020;24:4048-4052. [doi:10.26355/eurrev_202004_20876](https://doi.org/10.26355/eurrev_202004_20876)
4. National Center for Immunization and Respiratory Diseases (NCIRD), Division of Viral Diseases. COVID-19 (Coronavirus Disease) Your Health People with Certain Medical Conditions. Centers for Disease Control and Prevention. <https://www.cdc.gov/coronavirus/2019-ncov/need-extra-precautions/people-with-medical-conditions.html>. Published 2020.
5. Entrenas M, Luis Manuel Entrenas C, Jose Manuel Vaquero B, Juan Francisco Alcalá D. "Effect of calcifediol treatment and best available therapy versus best available therapy on intensive care unit admission and mortality among patients hospitalized for COVID-19: A pilot randomized clinical study." *J Steroid Biochem Mol Biol*. 2020;105751(2020). <https://doi.org/10.1016/j.jsbmb.2020.105751>

- www.sciencedirect.com/science/article/pii/S0960076020302764?via%3Dihub
6. Meltzer DO, Best TJ, Zhang H, Vokes T, Arora V, Solway J. Association of Vitamin D Status and Other Clinical Characteristics With COVID-19 Test Results. *JAMA Netw Open*. 2020;3(9):e2019722. [doi:10.1001/jamanetworkopen.2020.19722](https://doi.org/10.1001/jamanetworkopen.2020.19722)
 7. Faniyi AA, Lugg ST, Faustini SE, Webster C, Duffy JE. Vitamin D status and seroconversion for COVID-19 in UK healthcare workers who isolated for COVID-19 like symptoms during the 2020 pandemic. *SSRN Electron J*. 2020:1-24. <https://doi.org/10.1101/2020.10.05.20206706>
 8. Hernández JL, Nan D, Fernandez-Ayala M, et al. Vitamin D Status in Hospitalized Patients with SARS-CoV-2 Infection. *J Clin Endocrinol Metab*. 2020;XX(XX):1-11. [doi:10.1210/clinem/dgaa733](https://doi.org/10.1210/clinem/dgaa733)
 9. Pereira M, Dantas Damascena A, Galvão Azevedo LM, de Almeida Oliveira T, da Mota Santana J. Vitamin D deficiency aggravates COVID-19: systematic review and meta-analysis. *Crit Rev Food Sci Nutr*. 2020;(2020):1-9. [doi:10.1080/10408398.2020.1841090](https://doi.org/10.1080/10408398.2020.1841090)
 10. Monotra M. Low vitamin D levels independently associated with severe COVID-19 cases, death. *Endocrine today*. <https://www.healio.com/news/endocrinology/20200911/low-vitamin-d-levels-independently-associated-with-severe-covid19-cases-death>. Published 2020.
 11. Webb A, Kazantzidis A, Kift R, Farrar M, Wilkinson J, Rhodes L. Colour Counts: Sunlight and Skin Type as Drivers of Vitamin D Deficiency at UK Latitudes. *Nutrients*. 2018;10(4):457. [doi:10.3390/nu10040457](https://doi.org/10.3390/nu10040457)
 12. Parva NR, Tadepalli S, Singh P, et al. Prevalence of Vitamin D Deficiency and Associated Risk Factors in the US Population (2011-2012). *Cureus*. 2018;10(6). [doi:10.7759/cureus.2741](https://doi.org/10.7759/cureus.2741)
 13. Moriyama M, Hugentobler WJ, Iwasaki A. Seasonality of Respiratory Viral Infections: Will COVID-19 Follow Suit? *Front Public Heal*. 2020;7:83-101. [doi:10.3389/fpubh.2020.567184](https://doi.org/10.3389/fpubh.2020.567184)
 14. Kasahara AK, Singh RJ, Noymer A. Vitamin D (25OHD) Serum Seasonality in the United States. Bhutta ZA, ed. *PLoS One*. 2013;8(6):e65785. [doi:10.1371/journal.pone.0065785](https://doi.org/10.1371/journal.pone.0065785)
 15. PA Media. More than 2.5m people in England to get free vitamin D. *The Guardian*. <https://www.theguardian.com/society/2020/nov/28/more-than-25m-people-in-england-to-get-free-vitamin-d-supply>. Published November 22, 2020.
 16. Laird E, Rhodes J, Kenny RA. Vitamin D and Inflammation: Potential Implications for Severity of Covid-19. *Ir Med J*. 2020;113(6):1-3. <http://imj.ie/vitamin-d-and-inflammation-potential-implications-for-severity-of-covid-19/>.
 17. Scottish Government, Population Health Directorate. Vitamin D: advice for all age groups. Factsheet. <https://www.gov.scot/publications/vitamin-d-advice-for-all-age-groups/>.
 18. Welsh Government. Vitamin D advice for everyone: coronavirus. Coronavirus (COVID-19). <https://gov.wales/vitamin-d-advice-everyone-coronavirus>.
 19. Hathcock JN, Shao A, Vieth R, Heaney R. Risk assessment for vitamin D. *Am J Clin Nutr*. 2007;85:6-18. [doi:10.1093/ajcn/85.1.6](https://doi.org/10.1093/ajcn/85.1.6)
 20. Benskin LL. A Basic Review of the Preliminary Evidence That COVID-19 Risk and Severity Is Increased in Vitamin D Deficiency. *Front Public Heal*. 2020;8:1-25.

[doi:10.3389/fpubh.2020.00513](https://doi.org/10.3389/fpubh.2020.00513)