

## The immune system needs at least 125 nmol/L (50 ng/mL) circulating 25-hydroxyvitamin D in order to function properly – Submission from Robin Whittle

This submission to the [COVID-19 Response Enquiry](#) addresses the **key health response measures** which Federal and State governments should have implemented in order to suppress COVID-19 transmission, harm and death – and should implement now and in the future for this and numerous other reasons.

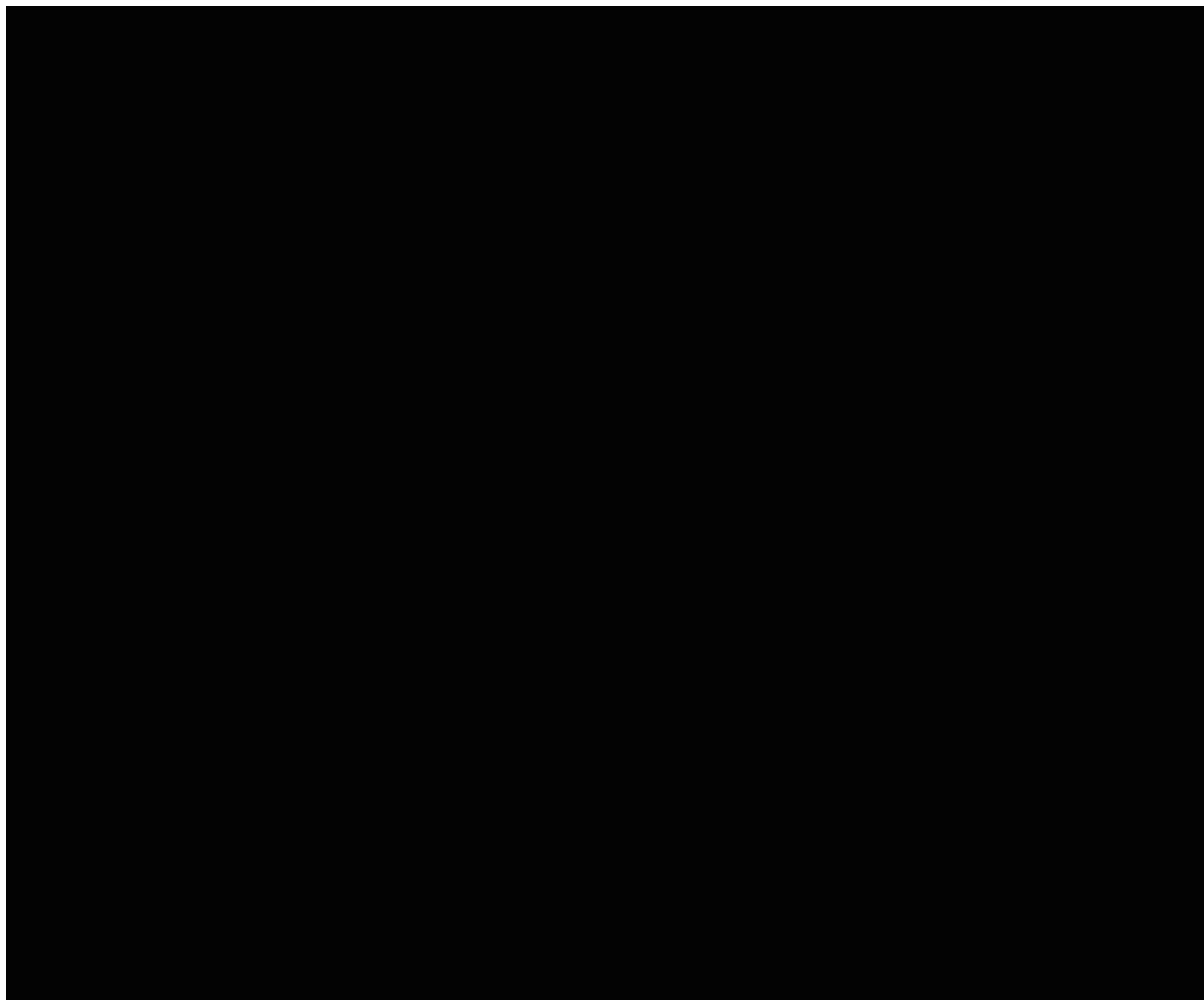
I am an electronic technician and computer programmer in Daylesford, Victoria. Since early 2020 I have been raising awareness of the immune system's need for 25-hydroxyvitamin D levels well above the ca. 50 nmol/L (20 ng/mL) level which is sufficient for the kidneys to regulate calcium-phosphate-bone metabolism. This is critically important for reducing the risk of severe COVID-19 and many other illnesses.

I established the Nutrition for Immune System Health (NISH) email discussion list [nish.groups.io](mailto:nish.groups.io) and I am part of an informal, international, group of researchers, doctors and advocates who have long been trying to raise awareness of the need for adequate 25-hydroxyvitamin D levels, with the COVID-19 pandemic making this a matter of life and death for millions of people.

**Please read the research articles cited and discussed at: [vitamindstopscovid.info/00-evi/](https://vitamindstopscovid.info/00-evi/).** This was a submission to a UK government inquiry (co-signed by [REDACTED] MD, Hawaii). Robin Whittle 2023-12-14

### Low 25-hydroxyvitamin D increases COVID-19 severity, transmission and risk of serious harm and death

This box and whiskers graph is from [REDACTED] et al. 2022 <https://doi.org/10.1371/journal.pone.0263069>. It shows that the lower the *pre-infection* 25-hydroxyvitamin D level is (as measured in “vitamin D” blood tests) the greater the severity of COVID-19. Severity drives increased viral shedding and so transmission.



The histograms from [REDACTED] et al. 2020 [www.medrxiv.org/content/10.1101/2020.09.04.20188268v1](https://www.medrxiv.org/content/10.1101/2020.09.04.20188268v1) depict the prevalence of different levels of 25-hydroxyvitamin D in sunny Israel. The 25-hydroxyvitamin D levels of white skinned people in the southern Australian states, who do not properly supplement vitamin D, during winter, would be significantly lower. The elderly, those with dark or black skin and those with sun-avoidant lifestyle (e.g. Muslim women in Australia and Israel) often have levels below 25 nmol/L – 20% of what their immune system needs. Vitamin D researcher and **Head, Department of Medicine, Monash University,**

Professor ██████ raised these concerns in August 2020 regarding the darker skinned immigrants in Victoria who then were suffering the highest rates of COVID-19 transmission, hospitalisation and death: [www.abc.net.au/listen/programs/healthreport/is-there-a-link-between-vitamin-d-and-coronavirus/12566324](http://www.abc.net.au/listen/programs/healthreport/is-there-a-link-between-vitamin-d-and-coronavirus/12566324).

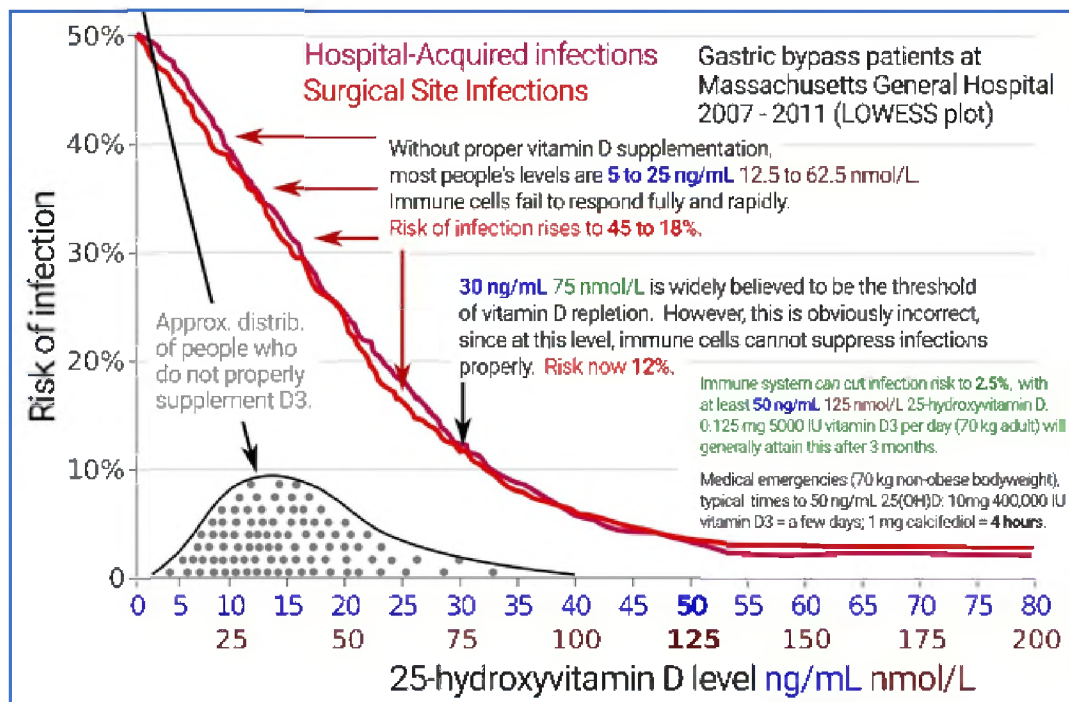
The green area of the graph depicts levels of 125 nmol/L (50 ng/mL, 1 part in 20,000,000 by mass) and above, which are needed by many types of immune cell, in order to properly supply their intracrine (inside each cell) and paracrine (to nearby cells) signaling systems. These signaling systems are crucial to the ability of individual immune cells to alter their behaviour in response to their changing circumstances. Since no peer-reviewed journal article provides a tutorial explanation of these systems, and since they must be understood by all doctors and immunologists, I wrote such a tutorial: [vitamindstops covid.info/00-evi/#02-compounds](http://vitamindstops covid.info/00-evi/#02-compounds).

Neither vitamin D3 cholecalciferol nor 25-hydroxyvitamin D calcifediol function as hormones. The immune system does not use hormonal signaling. 25-hydroxyvitamin D is produced, over several days, in the liver from vitamin D3 which is either ingested or produced in ideally white skin by extensive ultraviolet B exposure.

Since 2008, leading researchers and medical doctors (many are both) have been calling for 100 to 150 nmol/L (40 to 60 ng/mL) to be recognised as the level of circulating 25-hydroxyvitamin D which is necessary for good health: [www.grassrootshealth.net/project/our-scientists/](http://www.grassrootshealth.net/project/our-scientists/).

The most direct evidence of immune system dysfunction increasing the further the 25-hydroxyvitamin D level fall below 125 ng/mL is ██████ et al. 2014 [jamanetwork.com/journals/jamasurgery/fullarticle/1782085](http://jamanetwork.com/journals/jamasurgery/fullarticle/1782085), PDF: [sci-hub.se/10.1001/jamasurg.2013.3176](http://sci-hub.se/10.1001/jamasurg.2013.3176) Morbidly obese patients undergoing gastric bypass surgery for weight loss at Massachusetts General Hospital had a 30% risk of hospital acquired infections and a 30% risk of surgical site infections if their 25-hydroxyvitamin D level was about 40 nmol/L (16 ng/mL). This is not far below the 50 nmol/L (20 ng/mL) required for proper kidney regulation of calcium-phosphate-bone metabolism, which is all most doctors and government supplemental vitamin D3 recommendations aim to attain.

Yet the risk of each type of infection falls to about 2.5% at 125 nmol/L and above. While people suffering from obesity have lower 25-hydroxyvitamin D levels than normal for any given vitamin D3 supplemental intake as a ratio of body weight [5nn.info/temp/250hd-obesity/](http://5nn.info/temp/250hd-obesity/), there is no reason to believe their immune systems need a higher level of 25-hydroxyvitamin D to function properly than do normal weight people.



New Jersey based Emeritus Professor of Medicine, ██████ MD, PhD, MBA, DSc, (CV) has been researching vitamin D since the mid-1990s. He told me that the most common response by doctors to research such as the above is: "How can it be true? It is too simple." Most medical doctors, immunologists and epidemiologists pay far too little attention to research on vitamin D and other nutrients. It is true, simple and of overriding importance to all aspects of health that most people need to supplement

vitamin D3 properly in order to attain the 125 nmol/L (50 ng/mL) or more level of circulating 25-hydroxyvitamin D which their immune systems need to function properly.

In 2022, Professor [REDACTED] provided the first peer reviewed recommendation for vitamin D3 supplemental intake quantities to safely attain this healthy level of 25-hydroxyvitamin D, without requiring blood tests or medical monitoring: **Rapidly Increasing Serum 25(OH)D Boosts the Immune System, against Infections - Sepsis and COVID-19** Nutrients 2022-07-21 [www.mdpi.com/2072-6643/14/14/2997](http://www.mdpi.com/2072-6643/14/14/2997).

In a recent webinar

[odyssey.com/@FrontlineCovid19CriticalCareAlliance:c/Weekly\\_Webinar\\_Aug16\\_2023:d?t=3386](https://odyssey.com/@FrontlineCovid19CriticalCareAlliance:c/Weekly_Webinar_Aug16_2023:d?t=3386) he simplified his recommendations for average daily vitamin D3 intakes:

**70 to 90 IU / kg** body weight for those not suffering from obesity (BMI < 30).

**100 to 130 IU / kg** body weight for **obesity I & II** (BMI 30 to 39).

**140 to 180 IU / kg** body weight for **obesity III** (BMI > 39).

So a 70 kg non-obese person should supplement around **4900 to 6300 IUs a day on average**. Please do not be alarmed by these high numbers: one IU of vitamin D3 is 1/40,000,000th of a gram. **5000 IU (0.125 milligrams) a day is a gram every 22 years**, and pharma-grade vitamin D3 costs about USD\$2.50 a gram ex-factory. *This is the only way most people's immune system can function properly.* The Australian government vitamin D recommendations aim to attain only 27.5 nmol/L (11 ng/mL) circulating 25-hydroxyvitamin D: [www.eatforhealth.gov.au/nutrient-reference-values/nutrients/vitamin-d](http://www.eatforhealth.gov.au/nutrient-reference-values/nutrients/vitamin-d). Daily vitamin D3 intake recommendations are: 1 to 50 years: 0.05 mg 200 IU; 51 to 70 years: 0.01mg 400 IU and 70+ years: 0.015 mg 600 IU. The largest capacity D3 capsules Australian retailers can sell are 0.025 mg 1000 IU.

Professor [REDACTED] also recommends **the most important early treatment for the great majority of COVID-19 patients**, whose 25-hydroxyvitamin D levels are a fraction of 125 nmol/L 50 ng/mL. Rather than use a single bolus dose of vitamin D3, such as 10 mg 400,000 IU, which takes several days to raise 25-hydroxyvitamin D over 125 nmol/L due to the delays of hydroxylation in the liver, he recommends **a single oral dose of 0.04 milligrams calcifediol, which is 25-hydroxyvitamin D, per kg body weight**. This is 1 mg for average weight adults, and raises circulating 25-hydroxyvitamin D safely over 125 nmol/L (50 ng/mL) in about **4 hours**. The crucial importance of rapidly boosting this level in hospitalised COVID-19 patients has been known since August 2020, [REDACTED] et al. [www.sciencedirect.com/science/article/pii/S0960076020302764](https://www.sciencedirect.com/science/article/pii/S0960076020302764) in which a single oral dose of 0.566 mg of calcifediol in hospitalised COVID-19 patients was the primary reason for ICU admissions dropping from 50% to 2% and deaths from 8% to zero.

However, most doctors are far too enamoured of the promises made for vaccines, monoclonal antibodies and expensive, patented, anti-virals to take a proper interest in nutrition and the fact that most people's immune system is crippled to a potentially large extent by insufficient 25-hydroxyvitamin D.

In 2021, [REDACTED] et al. [www.nature.com/articles/s41590-021-01080-3](https://www.nature.com/articles/s41590-021-01080-3) elucidated the role of 25-hydroxyvitamin D based intracrine (they called it *autocrine*) signaling in Th1 regulatory lymphocytes. An inadequate supply of this compound was the primary or sole reason for Th1 cells from the lungs of hospitalised patients remaining stuck in their pro-inflammatory startup program, never transitioning to their anti-inflammatory shutdown program, despite detecting the condition to do so: a high level of a complement protein. If these people had had 125 nmol/L (50 ng/mL) 25-hydroxyvitamin D when infected, they would probably not have had such severe infection and inflammation as to require hospitalisation.

The research cited in these three pages, shows that a great deal of human ill-health, and millions of deaths worldwide from COVID-19, could have been greatly reduced with 125 nmol/L (50 ng/mL) or more circulating 25-hydroxyvitamin D. There is very little vitamin D3 in food – fortified or not – or in multivitamins, so a “balanced diet” is insufficient for good health. White skinned people can generate sufficient vitamin D for immune system health with extensive UV-B skin exposure. However, this is only available naturally on cloud-free summer days – and UV-B damages DNA and raises the risk of skin cancer.

The Australian public relies on the federal government to support the best measures which ensure general health and proper early treatment of all diseases, especially COVID-19. The government needs to look beyond the blinkered view of the majority of the medical profession and support the public according to the best research. **Please read the best of this research yourselves: [vitamindstops covid.info/00-evi](http://vitamindstops covid.info/00-evi)**.

Adequate 25-hydroxyvitamin D can be attained easily with proper vitamin D3 supplementation. This is important for numerous reasons, including suppressing the transmission and/or severity of a very large number of health conditions, including: sepsis, COVID-19, Kawasaki disease, MIS-C, influenza. In utero [#3.2](#): autism, intellectual disability, schizophrenia, ADHD, low birth weight pre-eclampsia. In old age [#3.3](#): most or all forms of dementia, including Parkinson's disease. Numerous auto-immune diseases, including MS, lupus and rheumatoid arthritis are worsened by low 25-hydroxyvitamin D.