

### Vitamin D is essential for proper immune functioning

Numerous studies demonstrate the importance of adequate vitamin D for a healthy immune system. Low levels have been found in acute respiratory distress syndrome and resultant death, as seen in severe COVID-19. Vitamin D can lower viral replication rates and reduce inflammation, in particular the 'cytokine storm'.

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### Low Vitamin D levels

**Do COVID-19 patients have low vitamin D?** UK COVID-19 patients were found to have some of the lowest vitamin D levels. The lowest levels were found in patients who were in intensive care, placed on ventilators and/or died. One study found that 97% of those critically ill had vitamin D deficiency.

**Could I have low vitamin D?** Studies show that Vitamin D levels should be at  $\geq 75$  nmol/l to provide optimum immune protection. Most of the UK population have levels below this. You can get a vitamin D test from your GP (and need to ask for a copy of your results because some laboratories consider 50 nmol/l to be adequate).

**Are certain groups more at risk of low vitamin D?** Members of the black, African and minority ethnic (BAME) community are particularly at risk because the melanin pigment in darker skin reduces sun exposure and vitamin D production.

A study showed that UK NHS healthcare workers from the BAME community were nearly nine times more likely to have vitamin D deficiency. While 21% of NHS healthcare workers come from the BAME community, they accounted for 63% of COVID-19 deaths.

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### Increasing Vitamin D levels

**How can I increase my vitamin D levels?** Unfortunately, very little vitamin D is found in the diet. The principal source of vitamin D is sunshine on bare skin, but

sunlight has limited impact autumn to spring so you can supplement with Vitamin D3.

**How much Vitamin D3 is recommended? Nutritionists suggest** 4,000 IU/day, (10,000 IU/day for the first two weeks to bring blood levels up quickly).

For the elderly, those with COVID-19 risk factors or members of the BAME community are recommended to take 8,000 IU/day, (15,000 IU/day for the first two weeks to bring blood levels up quickly).

Toxicity may occur at higher doses of 30,000 IU/day for 3 months.

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### Vitamin D as treatment

**Vitamin D has been shown to be an effective treatment for COVID-19.** A Spanish study randomised patients to vitamin D or no vitamin D. Among those not receiving vitamin D, 50% were transferred to intensive care and 8% died; among those given vitamin D, 2% of patients were moved to intensive care and 0% died.

In an Indian study, high dose vitamin D was given to those with vitamin D levels  $< 50$  nmol/l; 62.5% of these patients became COVID negative, compared to only 21% not given vitamin D. Similarly, among nursing home residents, 82.5% of those given vitamin D survived compared to 44.4% of those not given vitamin D.

Vitamin D supplementation also improved clinical recovery (shorter hospital stay, lower oxygen requirement, reduction in inflammatory markers).

Vitamin D is now included in several COVID-19 treatment protocols.

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**You must not rely on the information on our website as an alternative to medical advice from your doctor or other professional healthcare provider and if you have any specific questions about any medical matter, you should consult your doctor or other professional healthcare provider.**

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