Vitamin D –The Sunshine Vitamin

Vitamin D is really not a vitamin but a hormone and one of the most important immune modulators in the body.

Sunshine brings many benefits, including the production of nitric oxide (heart disease) and serotonin (helps depression). **However, the biggest benefit is the production of Vitamin D.**

Vitamin D and Respiratory Infections

Vitamin D has been shown to reduce the incidence of respiratory infection in adults and children in 3 meta-analyses, and asthma in 5 studies. Low levels of Vitamin D have been associated with lung disease, tuberculosis, sinus infections and exacerbations of COPD. **Vitamin D protects against infections**. Please note **it takes two weeks for the Vitamin D to become fully activated** after starting Vitamin D3 supplements. See also the ***boosting immunity leaflet*** to see how Vitamin D protects infants from life-threatening illness from the respiratory syncytial virus.

Vitamin D and Covid 19

There is clear evidence Vitamin D reduces the risk of Covid. It reduces the risk of Covid 19 with very high confidence for mortality, hospitalisation, recovery and viral clearance.
217 studies in 17 countries.
See Vdmeta.com for results of all trials.

Five meta-analyses since December 2021 have shown strong, consistent, statistically significant results that low Vitamin D levels increase and supplements decrease all stages of Covid risk (infection risk, hospitalisation risk, ITU risk, mortality risk) by 1.5 -3 times.
Authors: Dissanayake (Dec 21) , Chiodini (Dec 21), D'Ecclesiis (X2, Jul 22), Tentolouris (Jan22)

Vitamin D and Chronic Diseases

Vitamin D improves heart disease, stroke, diabetes, birth defects and depression.

There is also a link between low vitamin D levels and chronic pain and Vitamin D has been shown to ease symptoms of back pain in 95% of one group studied. Another study found vitamin D gave a 33% reduction

in type 2 diabetes and another found it reduced fractures by one third. Sunlight strengthens muscles (in one study reducing falls in the elderly by 19%) and increases heart output by 40% It also lowers cholesterol, lowers sugar, lowers blood pressure, strengthens muscles, protects against multiple sclerosis, improves absorption of calcium and magnesium, boosts immunity, protects from infections, and doubles the lifespan of laboratory mice.

Vitamin D reduces the likelihood of falls (probably by strengthening muscles). It has been estimated that the NHS could save £2 billion by reducing falls. Vitamin D reduces the incidence and severity of ulcerative colitis. Lower Vitamin D levels are linked with lower mood.

A 2023 study followed 12,000 healthy 71 years olds. Those who took Vitamin D supplements had 40% less cases of dementia over 10 years and were 49% less likely to develop it. Women benefitted more than men. **https://doi.org/10.1002/dad2.12404**.

A major meta-analysis of people with pre-diabetes in 4000 men and women compared the results of taking Vitamin D 4000 iu daily for three years or taking nothing. Those taking Vitamin D lowered the risk of developing type 2 diabetes by 15%: https://doi.org/10.7326/M22-3018.

Another study looked at coloured US veterans and found those given Vitamin D were 50% less likely to attempt suicide or self-harm. https://doi.org/10.1371/journal.pone.0279166.

Reducing Mortality and Saving the NHS Billions

There is a 26% difference in mortality between those in the highest and lowest quadrants in blood levels of Vitamin D.

How many lives and how much money could be saved if we all too enough Vitamin D. An attempt to answer this question was done in Canada. They estimated that increasing the average level of vitamin D from 67nmol/l (which is low) to 105 nmol/l (which is in the middle of the normal range) would save 37,000 lives (a drop in overall deaths by 16%) and would save $ 14.4 billion. The population of the UK is over one and half times that of Canada and so the number of lives and the money saved in the UK would likely be much greater.
https://doi.org/10.1002/mnfr.200900420

Vitamin D and Cancer

There is now strong evidence that moderate sunbathing and having higher levels of Vitamin D in the blood **lowers the incidence of 17 types of cancers** (including breast, ovary, prostate, colon, bladder, non-Hodgkins lymphoma). It also increases survival times in cancer.

Chemotherapy drugs, have been shown to greatly reduce Vitamin D levels. Cancer does the same. Boston Medical School found the dose

needs to be higher in these situations, ideally 5000 iu daily when cancer is active and 10,000 IU daily during chemotherapy.

A cohort of over 5000 women, those with serum 25OHD of >150nmol/l were found to have 20% of the risk of getting breast cancer compared to those with levels of <50 nmol/l.

It also illustrates how little attention Vitamin D gets in mainstream medicine, considering its huge potential to relieve illness.

High-dose Vitamin D, Multiple Sclerosis and Auto-Immune Disease

Some of the most dramatic benefits of Vitamin D have been seen with multiple sclerosis. Professor Cicero Coimbra, a neurologist and professor of neuroscience at the Federal University of Sao Paulo, Brazil. has pioneered the use of high-dose Vitamin D in multiple sclerosis and other auto-immune disease including psoriasis, Crohn's disease, vitilgo, ankylosing spondylitis and rheumatoid arthritis. He believes that there is resistance to Vitamin D in auto-immune diseases and high doses are needed.

His results have been remarkable. In multiple sclerosis this treatment typically switches off the disease and lesions under two years old resolve over time. The doses he uses are typically 50-200,000 IU daily. His regime requires special monitoring with regular blood and urine tests. Adverse effects are rare and typically the treatment gives a feeling of well-being.

Vitamin D and the Prevention of Type 1 Diabetes

One of the most fascinating studies on Vitamin D ever comes from Finland. This showed that taking 2000 IU Vitamin D in pregnancy reduced the rate of type 1 diabetes in their children by 80%. **The implication of this study is enormous. If 2000 IU of Vitamin D was routinely given in pregnancy then type 1 diabetes would become a rare disease.**

Vitamin D and Drugs

Some drugs lower Vitamin D including antacids, statins and anti-convulsants.

How much Vitamin D?

The ideal level of Vitamin D **should be above 75nmol/l** but levels are typically lower than this in the UK. It is difficult to get adequate Vitamin D from food although oily fish and mushrooms do contain a little. Typically sunbathing, long enough to get slightly red, in a bathing costume, will provide 10,000 of Vitamin D within half an hour or so. This Vitamin D stays in the body for 5 to 6 weeks. I am a great advocate of

sun exposure but please be aware that excess sunbathing in the middle of the day in the middle of summer can increase the risk of some skin cancers. **So get plenty of sunshine but don't binge on it** and avoid the most dangerous times.

However **most people need supplements of Vitamin D**. Dr John Cannell, founder of the Vitamin D Council and researcher on Vitamin D has stated that there has never been a case of toxicity seen in people taking 10,000 IU vitamin D daily even for prolonged periods. **Some recent work published in a major medical journal suggest the ideal daily dose of Vitamin D should be 2,600iu daily**. However it is safe to take up to 10,000 IU daily. Above this amount regular monitoring will be required.

Note 25µg is the same as 1000 IU. If you are likely to be in the sun take your supplement in the evening, after food, otherwise after any meal.

There is another form of vitamin D called D2 or ergocalciferol. It is best not to use this form as it has only a quarter of the strength of Vitamin D3 (colecalciferol). You can buy supplements containing 1000 IU (25µg) at health food shops. For children drops are available. Children with low levels can have up to 5000 IU daily if under 6 months and up to 8000 IU if over 6 months. Take this for 2 months then use 200-400 IU for routine use in children under 6 months and 400-800 IU in those over 6 months.

These studies illustrate the huge potential of Vitamin D to relieve illness but also how little attention Vitamin D gets in mainstream medicine.