

# Vitamin D

## FACT SHEET

**Vitamin D is one of the most important nutrients required for our overall health, so how does Vitamin D work?**

***The Sunshine Vitamin*** and how important it is.

Vitamin D is a Pro-Hormone (*Though not hormones themselves, prohormones amplify the effects of existing hormones*), which the body produces naturally by synthesising ultraviolet light from the sun. It is required to make the body use calcium for stronger bones and teeth, therefore when it is deficient within the body it can be the cause of rickets in children and osteoporosis in adults.

A normal diet would only provide 10% of our vitamin intake, and during the months of October to May in the UK, the sun is not a strong and does not provide enough for the skin to then synthesise the UVB rays into vitamin D. Our indoor lifestyles also require us to look at obtaining vitamin D through other means such as a daily supplement.

Vitamin D is found to limited degree in foods such as oily fish and some fortified cereals, however the levels provided can often be too low and not included in our daily diets, therefore a supplement can be the primary source.



**NICE** estimate that around 10 million people in the UK could be vitamin D deficient, spread across children adults and the elderly. The most recent advice from Public Health England on vitamin D is that everyone in the UK should supplement with vitamin D during the autumn and winter months due to the lack of sunshine and indoor lifestyles being led.

**The Department of Health** clearly defines what it terms as “*at risk groups*”, who should supplement with vitamin D all year around.

- **All pregnant and breastfeeding women**
- **Infants and young children under the age of 5**
- **Older people over the age of 65**
- **Those people have low or no exposure to the sun**
- **People who have a darker skin, which is naturally resistant to UV radiation**



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## What does we mean by enough vitamin D?

It is well accepted that vitamin D plays an important and vital role in maintaining a healthy lifestyle and in support of the body. But the question is how much is enough? The answer although complicated due to the ever changing diets and lifestyles can be worked out by using the Department of Health measurement guidelines:

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**>50nmol/l = adequate.**

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**25-49nmol/l = insufficient.**

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**<25nmol/l = deficient.**

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Vitamin D is a well-known and recognised contributor to an effective and robust immune system. Our immune system acts to protect us, not only from coughs and colds, but from most of other diseases known as autoimmune, or comorbid diseases (existing simultaneously with and usually independently of another medical condition), which include MS, diabetes, and a growing number of internal cancers including breast cancer. When a serum level of 50nmol/l is present in the body it is known to offer resistance to rickets in children and bone related diseases in adults.

Ongoing studies being carried out at Sandwell and West Birmingham NHS Trust has found that an average adult will require between 2000 – 3000iu daily in order to maintain a healthy serum level. Studies have shown that an oral dosage can result in optimal levels being achieved within 10 weeks of administration.

It is important to understand the need to maintain a healthy level of vitamin D in the body, which by diet alone and sunshine is not enough, therefore using an oral supplement, whether it be tablets capsules, liquids or sprays is recommended for the at risk groups.

On average 20% of teenagers and adults have a vitamin D intake that is equivalent to a deficiency of 25nmol/L (tests report results in nanomoles (nmol) per litre), 40% of those in care homes etc. have vitamin D intake equivalent to deficiency and during the winter months 35% of teenagers and adults have a plasma concentration level equivalent to deficiency.

*The following populations groups were reported to be vitamin D deficient;*

- **17% of Scottish adults**
- **16% of London adults**
- **29% of pregnant women in London.**
- **53% of women of South Asian ethnic backgrounds (India, Pakistan, Bangladesh, Sri Lanka, Nepal and Bhutan constitute the Indian subcontinent but including Afghanistan Iraq etc.)**

*The most common symptoms of being vitamin D deficient would include;*

- **Lack of energy and fatigue**
- **Frequent headaches**
- **Muscle pains**
- **Depression**
- **Poor immune system**

Available on the market are easy to use home testing kits, using a painless finger-prick test, which is sent to laboratory to be tested, with results taking up to 5 days.



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