



Evidence suggests that vitamin D plays a vital role in the prevention of a number of serious diseases including diabetes and cancer

VITAMIN D, one of the fat-soluble vitamins, has been identified as a vital component to develop and maintain strong and healthy bones throughout life. In addition, there is growing evidence that it may play an important role in the prevention of a number of serious diseases, including cardiovascular disease, diabetes, some inflammatory conditions and some cancers.

Vitamin D is needed at all stages throughout life, however it can be difficult to achieve the recommended intake everyday. Often known as the 'sunshine vitamin', it is largely produced in the body through exposure of the skin to sunlight. However, due to Ireland's latitude, 51-55 degrees north, from November to March there is inadequate quality and quantity of sunlight to enable sufficient production of vitamin D by the body to reach the recommended dietary allowances (RDA).

The use of sunscreen and an increasingly indoor lifestyle also impact negatively on the body's vitamin D production.

Darker skinned people living in Ireland are most at risk as they require more sunlight to produce vitamin D than those with light skin.

While the avoidance of over exposure to the sun due to the risk of skin cancer is important, a small amount of skin exposure to the sun is beneficial.

Vitamin D helps to regulate the levels of calcium and phosphate – nutrients needed to keep bones and teeth healthy – in the body. A lack of vitamin D can cause bone deformities such as rickets in children, and bone pain and tenderness, as a result of a condition called osteomalacia, in adults.

Rickets causes a softening of bones in children that can result in fractures and deformity. It had been considered to be a disease confined to developing countries but in the late 2000s cases began to

re-emerge in Ireland, with 23 diagnosed cases within a two-year period.¹

Other negative effects of insufficient Vitamin D include inadequate absorption of calcium, which prevents normal calcification of the bones, resulting in soft and even deformed bones. Children who do not take in adequate amounts of vitamin D are at risk from autoimmune diseases, cancer, diabetes and dilated cardiomyopathy resulting in heart failure, impaired neurological function and possible mental health conditions, such as schizophrenia.²

Sources of vitamin D

A small amount of skin exposure to the sun helps our bodies to produce vitamin D. Exposing bare arms and legs for five to 15 minutes, two to three times a week between 10am-3pm in the summer can produce enough vitamin D to meet requirements.³ However, it is not advised to expose bare skin to direct sunlight and, as mentioned, because Irish latitude is above 42 degrees north, sunshine vitamin D production is low. Food sources, and possibly supplementation, are therefore important.

Good food sources include:

- Oily fish, such as salmon, sardines and mackerel
- Egg yolks
- Fortified spreads
- Fortified milk
- Fortified breakfast cereals
- Powdered milk.

Meats such as liver and kidney are also a good source of Vitamin D but they are not suitable for infants or pregnant women because they contain too much Vitamin A.

How much vitamin D do we need?

Studies have revealed that low vitamin D status and vitamin D deficiency are widespread in the population of Ireland. The evidence that women of childbearing age and adolescent girls (potential mothers) have inadequate vitamin D intake and low vitamin D status is particularly concerning.⁴

The FSAI has stated that the exact

Irish recommended dietary allowances for vitamin D

Age group	Vitamin D requirement (micrograms/day)
Infants 0-6 months	8.5
7-12 months	7
Children 1-3 years	10
4-10 years	0-10
Adolescents 11-17 years	0-15
Adults 8-64 years	0-10
Elderly over 65 years	10
Pregnancy	10
Lactation	10

vitamin D needs of different population groups needs to be assessed. The Irish healthy eating guidelines are currently being revised and will take into account new information on vitamin D status of the population. The current Irish RDA for vitamin D can be seen in *Table 1* above.

Those who should ensure they get enough vitamin D, whether through diet or supplementation, or both, include:

- Pregnant and breastfeeding women
- Babies and children under the age of five
- Older people aged 65 years and over
- Those not exposed to much sun, such as people who cover up their skin entirely when outdoors, or those housebound for long periods
- People who have darker skin, for example those of African, African-Caribbean or south Asian origin.

- Alison Moore

References

- 1 Food Safety Authority Ireland (2007). *FSAI Advises on National Policy for Vitamin D supplementation for infants*. Dublin: Department of Health
2. American Academy of Paediatrics (2008). *AAP clinical report on vitamin D intake: New guidelines for vitamin D intake*. *Paediatrics*; 112(4): 908-910
3. Holick MF (2007). *Vitamin D deficiency*. *New England Journal of Medicine*; 357: 266-281
4. http://www.fsai.ie/faq/vitamin_d.html (8/8/2013)