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## The wonderful world of vitamin D

In the early part of the 20<sup>th</sup> century it was realised that rickets – a disease characterised by poor bone development, frequent fractures and growth disturbance – was caused by lack of sunlight. It was suggested that a nutritional factor found in fats was also involved. The mysterious and, up until then, elusive substance was found in cod liver oil and designated vitamin D (essential nutrients A, B and C had already been identified; so to give this name to number four in the list seemed fair and reasonable).

Most people are well aware of the important role vitamin D plays in helping the body absorb calcium – necessary for the development of healthy bones, muscles and teeth – but scientists are now suggesting that vitamin D and calcium may be involved in a wide range of diseases and disorders such as diabetes, heart disease, various cancers (breast, colon and prostate), skin conditions and depression.

Recently a theory has been put forward that Mozart may have died, at least indirectly, from a lack of vitamin D – living as he did for most of the time in a sunlight deprived Europe. Meanwhile, delegates at an international conference on lung disease, held in Hong Kong earlier this month, heard that vitamin D may even protect people carrying the TB bug from contracting the active form of the disease.

In Australia, because of our abundance of fresh fruit and vegetables and especially dairy foods, and our outdoor lifestyle in climate conditions of warmth and sunshine, rickets is not common in children. However, as many so-called Baby Boomers approach their 60-plus birthdays, there is an increased focus on brittle bones and fractures with advancing age – and so an increased focus also on the role of vitamin D. Recent studies have indicated that vitamin D insufficiency may be an “unrecognised epidemic” with up to 25% of Australians being vitamin D deficient.

It's almost impossible to obtain enough vitamin D from food; we get around 90% of our vitamin D from exposure to the sun. But, it's important to strike a balance between sufficient sun exposure for adequate vitamin D production and minimising the risk of skin cancer.

In most parts of Australia – “tank top” (face, hands and arms) exposure for 10 minutes, three or four times a week during the spring and summer months, is ample time. Also, short exposure to sunlight is more efficient at producing vitamin D; so the need for vitamin D is no excuse for getting sunburnt.

Of course the exact amount of sunlight exposure required for adequate vitamin D production is hard to predict. Time of year, time of day, age and skin colour, and whether you live in Port Douglas or Port Arthur will all influence the ideal exposure time. There is an obvious risk of vitamin D deficiency in people who don't have easy access to sunshine. This applies to housebound or bedridden elderly people, people who live in aged-care facilities, and people who wear concealing clothing for religious or cultural reasons.

Other people at risk of vitamin D deficiency include people with dark skin, people who are obese, and breastfed babies, especially if their mothers have a vitamin D deficiency.

Some medicines can cause or aggravate vitamin D deficiency and there are some medical conditions that reduce the absorption or the activation of vitamin D – liver or kidney disease, coeliac disease, Crohn's disease and cystic fibrosis.

While routine vitamin D supplementation is not recommended for most adults in Australia, a daily supplement should be recommended for at-risk adults. Your doctor can give you a simple blood test to determine whether or not you are deficient in vitamin D. You can get more information from the Cancer Council ([www.cancercouncil.org.au/positionVitD](http://www.cancercouncil.org.au/positionVitD)) or pharmacies providing the Pharmaceutical Society's Self Care health information. Log on to [www.psa.org.au](http://www.psa.org.au) for the nearest location.