

Kellogg's factsheet

VITAMIN D – essential for Strong Bone Development

What is it? & why do we need it?

Vitamin D is known as the sunshine vitamin because our skin can produce vitamin D from the sun's ultra violet light (UVB). It helps control the amount of calcium we absorb and is therefore important for the development of strong bones. Lack of vitamin D can therefore reduce the body's ability to absorb calcium, resulting in less calcium for bone formation. There is also emerging evidence that a low vitamin D status may increase the risk of developing chronic diseases, such as hypertension, diabetes mellitus, cardiovascular disease, some forms of cancer, and some inflammatory and autoimmune diseases such as Type 1 diabetes and Multiple Sclerosis (MS).

How much is enough?

Current dietary recommendations:

Population groups	Reference Nutrient Intakes
People over 64 years and pregnant women	10mcg vitamin D/day (400iu)
Children under 3	7mcg/day (280iu)

In the UK there are no Dietary Reference Values for vitamin D for people aged 4-64 years as it was assumed that exposure to sunlight during the summer months was adequate to achieve the required amount of vitamin D. However due to the increased caution regarding sun exposure and insufficient sunlight for vitamin D production during much of the year, potentially 50% of UK adults have insufficient vitamin D status¹. In addition, some groups of the population are thought to be at high risk of deficiency.

These include:

- Pregnant and/or lactating women
- Breast fed infants from 6 months
- Formula fed infants, if formula fed is <500mls/day
- Children up to 5 years
- Dark skin pigmentation
- The elderly (over 64 years)
- People with little or no exposure to sunlight e.g. elderly, housebound, institutionalised
- People who cover skin with clothing for majority of summer months e.g. religious reasons

Therefore they are advised to take a vitamin D supplement.

Vitamin D supplements

The Department of Health has recommended vitamin D supplements for infants and children up to the ages of 5 years, as well as pregnant and breast feeding mothers. The Healthy Start vitamins are freely available to those who qualify for the Healthy Start scheme (www.healthystart.nhs.uk).

So, how can we get enough?

There are 2 sources; diet and the sun's action on skin. The amount someone can get from the sun depends on how much time is spent in the sun, the clothes they are wearing, and the use of sunscreen. Also, the strength of the UVB rays depend upon the time of the year and the time of the day – the optimum time being April to September and 11am until 3pm. Aim for 15-20 minutes in the sunshine (at least 3 times a week) but thereafter be sure to put sun screen on to protect your skin.

Few, natural dietary sources exist, with the richest being:

- Oily fish e.g. salmon, tuna, mackerel, herring, pilchards
- Cod liver oil

Smaller amounts:

- Meat, especially liver and eggs
- Milk and dairy foods (Unlike other countries, in the UK dairy products are not required to be fortified, although some are: processed cheese, some yoghurts, fromage frais, children's yoghurt drinks)
- Margarine (required by law)
- Some spreads
- Some breakfast cereals eg: Bran Flakes, Corn Flakes, Special K

Avoiding Vitamin D Deficiency

- Include oily fish at least 1-2 times per week. Salmon, trout, mackerel, herrings or sardines
- Spend 15-20 min in the sunshine 2-3 times a week
- Choose breakfast cereals with added Vitamin D
- Check with your GP regarding use of supplements if you are in a 'high risk' group

1. Hyponen E et al (2007) Hypovitaminosis D in British adults at age 45y: nationwide cohort study of dietary and lifestyle predictors. Am J Clin Nutr 85:860-8