Self-care information on Vitamin D

# Why is Vitamin D important?

Vitamin D helps regulate the amount of calcium and phosphate in the body. These nutrients are needed to keep bones, teeth and muscles healthy. Low vitamin D levels are linked to conditions such as rickets in children, osteoporosis and bone pain caused by a condition called osteomalacia (soft bones) in adults.

Many people with low vitamin D may have no symptoms or may complain of only vague ones such as tiredness or general aches.

# Sources of vitamin D

We get 90% of our vitamin D from sunlight and a small amount from the food we eat.

The body creates vitamin D from direct sunlight on the skin when outdoors. Your body can't make vitamin D if you're sitting indoors by a sunny window because ultraviolet B (UVB) rays (the ones your body needs to make vitamin D) can't get through the glass.

From late March/early April to the end of September, most people can make enough vitamin D from being out in the sun. Researchers at the University of Manchester have been looking into the relationships between sunlight exposure and vitamin D. They have found that – for lighter skin people – daily sunlight exposure for 10-15 minutes between April and September provides enough year-round vitamin D while also minimising the risks of sunburn and skin cancer. People with dark skin, such as those of African, African-Caribbean or south Asian origin, will need to spend longer in the sun to produce the same amount of vitamin D as someone with lighter skin. For darker skin people, 25-40 minutes is recommended. Daily exposure for short periods of time with your forearms, hands or lower legs uncovered, and without sunscreen, should be enough sunlight especially between 11am to 3pm. Take care not to burn by covering up or protecting your skin with sunscreen before your skin starts to turn red and burn.

Vitamin D is found in a small number of foods. Sources include:

* Oily fish – such as salmon, sardines, herring and mackerel.
* Red meat.
* Liver.
* Egg yolks.
* Fortified foods.

Foods that are fortified with vitamin D include all infant formula milk, some breakfast cereals, fat spreads and non-dairy milk alternatives. The amounts added to these products can vary and may only be added in small amounts. Manufacturers must add vitamin D to infant formula milk by law. In the UK, cows' milk is generally not a good source of vitamin D because it is not fortified, as it is in some other countries.

It is very difficult to get enough vitamin D from just our food, so between October and early March your body does not make enough vitamin D from sunlight. Everyone should consider vitamin D supplementation during this time.

# Do I need to take a vitamin D supplement?

Public Health England recommends that everyone needs an average daily intake of 10 micrograms vitamin D.

During the autumn and winter, when the sun is not strong enough and it is difficult to get enough vitamin D from food alone; everyone should consider taking a daily supplement containing 10 micrograms of vitamin D. A microgram is 1,000 times smaller than a milligram (mg). The word microgram is sometimes written with the Greek symbol μ followed by the letter g (μg).

Certain groups of people are more likely not to be able to make enough vitamin D and should take a vitamin D supplement all year round. These people include:

* Pregnant and breastfeeding women
* Children under five years of age
* People over 65 years of age
* People who are not exposed to much sun, e.g. those who cover their skin for cultural reasons, those that are housebound or in a care home.
* African, African-Caribbean and South Asian people

# How much vitamin D should I take?

* Fully and partially breastfed babies from birth up to the age of 1 year should be given a daily supplement containing 8.5 to 10 micrograms of vitamin D.
* Bottle-fed babies should **not** be given a vitamin D supplement unless they have less than 500mL (about a pint) of infant formula a day, as infant formula is fortified with vitamin D.
* Children aged 1 to 4 years old should be given a daily supplement containing 10 micrograms of vitamin D.
* At-risk adults take 400 IU daily (10 micrograms daily) of vitamin D all year round. This includes pregnant and breastfeeding women.
* All adults need 400 IU daily (10 micrograms daily) of vitamin D during autumn and winter.

You can buy vitamin D supplements or vitamin drops containing vitamin D (for under 5s) in many shops, including pharmacies and supermarkets. If you are unsure of the amount of vitamin you should take or if you have any questions about vitamin D, ask a pharmacist.

# Healthy Start vitamins

If you are pregnant or have a child under four years old you could get Healthy Start vouchers every week to spend on milk, plain fresh and frozen fruit and vegetables, and infant formula milk. You can also get free vitamins. Healthy Start vitamin coupons will be sent to you, with your Healthy Start vouchers, every eight weeks. Healthy Start vitamins are only needed for children from birth who are having less than 500mL (one pint) of infant formula a day.

Healthy Start women’s vitamin tablets contain:

* **Folic acid:** reduces the chance of your baby having spina bifida, a birth defect where the spine doesn’t form properly
* **Vitamin C:** helps maintain healthy tissue in the body
* **Vitamin D:** helps your body to absorb calcium and so supports your baby’s bones to develop properly.

Healthy Start children’s vitamin drops contain:

* **Vitamin A:** for growth, vision in dim light and healthy skin
* **Vitamin C:** helps maintain healthy tissue in the body
* **Vitamin D:** for strong bones and teeth.

Healthy Start vitamins are suitable for vegetarians and halal diets, and are free from milk, egg, gluten, soya and peanut residues.

To find out if you are eligible and to apply for the Healthy Start scheme ask your pharmacist, GP or midwife or see the website for more information: <https://www.healthystart.nhs.uk/>.

**Further Information:**

* NHS. Vitamin D. Last reviewed August 2020 . [https://www.nhs.uk/conditions/vitamins-and-](https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-d/) [minerals/vitamin-d/](https://www.nhs.uk/conditions/vitamins-and-minerals/vitamin-d/)
* NHS. How to get vitamin D from sunlight. Last reviewed 31st August 2018. <https://www.nhs.uk/live-well/healthy-body/how-to-get-vitamin-d-from-sunlight/>
* British Dietetic Association - The Association of UK Dieticians. Vitamin D: Food Fact Sheet. August 2019. <https://www.bda.uk.com/resource/vitamin-d.html>
* British Skin Foundation. Sunlight and vitamin D. <https://www.britishskinfoundation.org.uk/sunlight-and-vitamin-d> Accessed 14/08/2020.
* University of Manchester. Sunlight and vitamin D. [https://www.research.manchester.ac.uk/portal/en/projects/sunlight-and-vitamin-](https://www.research.manchester.ac.uk/portal/en/projects/sunlight-and-vitamin-d(1646e695-5cba-4ced-9ad8-cf0957aef318).html) [d(1646e695-5cba-4ced-9ad8-cf0957aef318).html](https://www.research.manchester.ac.uk/portal/en/projects/sunlight-and-vitamin-d(1646e695-5cba-4ced-9ad8-cf0957aef318).html)
* NHS. Healthy Start Vitamins. Accessed 23/06/2020. Available from: <https://www.healthystart.nhs.uk/>

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