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**Staying well during COVID-19**

**Vitamin D**

**What is vitamin D and why is it important to our health?**

Vitamin D is a key nutrient that your body needs. [Vitamin D](https://www.webmd.com/vitamins-and-supplements/video/vtamin-d-and-your-health) is needed by your body to absorb [calcium](https://www.webmd.com/drugs/2/drug-1575/calcium+oral/details) and promote bone growth. Vitamin D helps regulate the amount of calcium and phosphate in the body; these nutrients are needed to keep bones, teeth and muscles healthy. Symptoms of vitamin D deficiency can include muscle weakness, pain, fatigue and depression.

**What are the main sources of Vitamin D?**

The main way the body produces vitamin D is from direct sunlight on the skin when outdoors during the months of May to September. Vitamin D is also found in a small number of foods. These include:

* oily fish – such as salmon, sardines, herring and mackerel
* red meat
* liver
* egg yolks
* fortified foods – such as most fat spreads and some breakfast cereals

Another source of vitamin D is dietary supplements.

**Are some population groups more at risk of being deficient in vitamin D?**

Yes. It is estimated that 20% of UK adults have insufficient levels of vitamin D. This could increase to 30% during the winter months and may be higher in people age 65 years and over. Low vitamin D status is more common in Black Asian and Minority Ethnic communities (BAME). This is due to the fact that darker skin produces less vitamin D than lighter skin per unit of ultraviolet light exposure. One study found that 79% of South Asian women in southern England had much lower levels of vitamin D in the autumn, compared with 4% of white women.

The UK government’s Scientific Advisory Committee on Nutrition (SACN) report identifies people at high risk of vitamin D deficiency:

* Infants and children aged under four years old;
* Pregnant and breastfeeding women, particularly teenagers and young women;
* People over 65;
* People with darker skin, for example people of African, African-Caribbean, or South Asian family origin
* If you always cover most of your skin when you are outside
* Anyone who spends very little time outside during the summer – the housebound, shop or office workers, night shift workers
* If the air is quite polluted

**Should I take vitamin D supplements?**

During the autumn and winter months, the sun is not strong enough for the body to make vitamin D so you need to get vitamin D through your diet. However, it can be difficult for people to get enough vitamin D from food alone. New guidance from NICE published in December 2020 recommends that **adults (including women who are pregnant or breastfeeding), young people and children over 4 years should consider taking a daily supplement containing 10mcg (400 units) of vitamin D between October and early March.**

People who have a higher risk of vitamin D deficiency are being advised to take a supplement **all year round**. Higher risk groups include:

* people who have little or no exposure to the sun, including because they:
  + are not often outdoors, e.g. frail, housebound, living in a care home
  + usually wear clothes that cover up most of their skin when outdoors
  + are spending most of their time indoors because of the Covid-19 pandemic
* people with dark skin, from African, African-Caribbean or South Asian backgrounds, because they may not make enough vitamin D from sunlight.

These groups in particular should consider taking a supplement all year but especially during the winter months.

Children aged between 1 and 4 years should also have a daily supplement containing 10mcg (400 units) of vitamin D throughout the year.

**Vitamin D and COVID-19**

There has been an ongoing debate about whether people with low levels of vitamin D might be at higher risk of infection with COVID-19, or develop worse symptoms if infected. There is an overlap between groups at high risk of vitamin D deficiency and groups at high risk of severe COVID-19. Examples include people with chronic disease, older age, and people of black, Asian and minority ethnic (BAME) communities. Further research is being undertaken at the moment. However, a recent review published by NICE in December 2020 found that there is currently not enough evidence to support taking vitamin D supplement solely to prevent or treat Covid-19.

There is also some evidence to suggest that daily vitamin D supplementation can reduce the risk of acute respiratory tract infections, however further research is ongoing and the Scientific Advisory Committee on Nutrition (SACN) will keep this topic under review.

But, it's still important to take vitamin D supplement during the autumn and winter months to keep your bones, teeth and muscles healthy, as recommended by NICE, particularly as you may have been indoors more than usual this year.

**Key messages**

1. The recommendation from NICE is that adults and children over the age of 4 should consider taking a daily supplement containing 10mcg (400 units) of vitamin D between the autumn and winter months of October to March.
2. People who have a higher risk of vitamin D deficiency are being advised to take a supplement all year round. At-risk groups include people whose skin has little or no exposure to the sun, like those in care homes, or people who cover their skin when they are outside. People with dark skin, from African, African-Caribbean and South Asian backgrounds, may also not get enough vitamin D from sunlight in the summer. They should consider taking a supplement all year round as well. Children aged between 1 and 4 years should also take a daily supplement throughout the year.
3. If possible, try to get outside and expose your skin to the sun for short periods of time during the sunnier months of May to September. Darker skins may need longer in the sun. The amount of vitamin D you make depends on how strong the sunlight is. You will make more in the middle of the day, when the sun is strongest. You will also make more when you are in direct sunlight than in the shade or on a cloudy day.

However strong sun also burns skin so you need to balance making vitamin D with being safe in the sun - take care to cover up or protect your skin with sunscreen BEFORE you turn red or get burnt.

1. Try and eat the foods that are rich in vitamin D such as oily fish, red meat, liver, egg yolks, and fortified foods.

**Useful links**

* NHS advice on Vitamin D: <https://www.nhs.uk/live-well/healthy-body/how-to-get-vitamin-d-from-sunlight/>
* British Dietetic Association – Vitamin D Food Fact Sheet: <https://www.bda.uk.com/resource/vitamin-d.html>
* The Scientific Advisory Committee on Nutrition (SACN) recommendations on Vitamin D, 2016: <https://www.gov.uk/government/publications/sacn-vitamin-d-and-health-report>
* NICE guideline (NG187) – Covid-19 rapid guideline: Vitamin D, December 2020: <https://www.nice.org.uk/guidance/ng187>