



Multiple sclerosis and vitamin D

This information sheet from Great Ormond Street Hospital (GOSH) explains the role that vitamin D plays in multiple sclerosis (MS) and how you can make sure that your child gets enough in their diet and through supplements.

What is vitamin D?

The body needs vitamin D to help absorb different nutrients, in particular calcium and phosphate. These nutrients are needed to keep bones, teeth and muscles healthy. The role of vitamin D in multiple sclerosis (MS) is still under much debate and researchers are working hard to fully understand the precise link between the two, but it is felt that vitamin D plays a role in people with MS.

Sources of vitamin D

Sunlight

For most people, the most important source of vitamin D is through sun exposure. This is because it is produced in our skin in response to sunlight.

Most people should get a sufficient amount of vitamin D from sunlight during the months of late March to late September. Between October and March however, getting enough vitamin D from sunlight in the UK is unlikely.

The amount of Vitamin D generated by sunlight exposure is reduced in people with darker skin, those who do not expose their skin to the sun and in older or obese people.

Food

Vitamin D can be found in small amounts in some foods such as oily fish, eggs, meat, milk and margarine. Some breakfast cereals and yoghurts have vitamin D added during production – this is referred to as fortification.

Supplements

Vitamin D supplements are measured in both micrograms (ug or mcg) and International Units (IU).

25 micrograms = 1000 International Units

There are two types of supplements: vitamin D2 (also known by its pharmaceutical name ergocalciferol) and vitamin D3 (colecalciferol). Vitamin D3 produces higher and more sustained blood levels of vitamin D and is generally recommended over vitamin D2.

Vitamin D and MS

The cause of MS is still unclear, however the general consensus is that it most likely a combination of factors including genetic makeup, an environmental component and some lifestyle factors.

There are currently many research studies trying to establish a link between vitamin D and MS. The main areas of research are:

- Do low vitamin D levels increase a person's risk of developing MS?
- Do low vitamin D levels increase the number of MS relapses and disease progression?

Are low vitamin D levels a risk factor for developing MS?

Some evidence has been found in studies on people with MS that low vitamin D levels could be a risk factor for developing MS. Studies looking at both vitamin D levels during pregnancy and vitamin D levels in childhood have shown that low levels may increase the risk of developing MS.

Are low vitamin D levels a risk factor for relapses in MS?

Further studies have found that lower vitamin D levels have also been associated with higher relapse rates and increased disability. However research is still ongoing to see if taking vitamin D supplements could be used to treat the symptoms of MS.

GOSH advice on vitamin D supplementation

As current research would suggest that there is a role for vitamin D in MS, the MS team at GOSH will check your child's vitamin D level on diagnosis. We have also taken the decision until the evidence is clear, to advise all of our patients to take 1000 International Units daily. The side effects of vitamin D at this level are thought to be very low. However taking too much vitamin D can cause a build-up of high levels of calcium in the blood (hypercalcaemia). This can cause nausea, vomiting, abnormal heart rhythm and kidney stones. This is extremely rare. We will check your child's vitamin D level on a six-monthly basis and there may be occasions that we need to alter the dose we have recommended depending on your child's level.

If your child's vitamin D level is low, we will ask your family doctor (GP) to prescribe vitamin D, first at a dose to bring it to the recommended level and then to take regularly. If there are no signs of deficiency, we would still recommend taking vitamin D. If however your GP does not prescribe, you will be able to buy vitamin D supplements from most high street health shops or pharmacies. Over the counter vitamin D supplements come in many different formulations – ask for advice about what would suit your child.

If you have any questions about your child's vitamin D level or which supplements they should take, contact your child's MS nursing team on 020 7405 9200 ext. 0460 or 5051.