

Neurology

Vitamin D and Multiple Sclerosis (MS)

Why are we interested in vitamin D?

There is emerging evidence that low levels of vitamin D may be associated with a higher risk of developing MS later in life. For many years, doctors have been puzzled over why MS seems to be more common in parts of the world where there is less sunlight, as the risk of developing MS increases the further away from the equator a person lives. While this may have a partly genetic basis, the fact that most people obtain the majority of their vitamin D from sunlight has led to an interest in whether lack of vitamin D may have a role to play in MS.

Where do we get vitamin D from?

There is some debate as to how much of our vitamin D we generate from sun exposure and how much comes from our diet (particularly oily fish and dairy produce). However, in winter, most people in England have fairly low levels of vitamin D. It seems that fairly short periods of sun exposure in summer months are sufficient to produce enough vitamin D, but in winter we have to rely more on dietary intake.

How do vitamin D levels affect MS?

Low levels of vitamin D may be associated with a higher risk of developing MS because vitamin D may alter the way the immune system works. Our understanding of MS is that it is a result of immune system attack on the lining of the nerves in the brain and spinal cord. It is possible that low levels of vitamin D cause the immune system to have a greater tendency to do this.

At present, there is now reasonable evidence that low vitamin D levels are a risk factor for MS. This has led some to suggest giving vitamin D supplements to everyone in geographical areas where MS is common (such as Scotland) to try to prevent MS from occurring. At present it is too early to know if this approach will be effective.

What does this mean for me?

It is less clear whether giving vitamin D supplements to people who already have MS may have a beneficial effect. One small study in Canada demonstrated that very high levels of vitamin D intake were safe and well tolerated. There was a suggestion in this study that patients given vitamin D supplements had fewer relapses, but the number of patients was small and definite conclusions could not be reached. Given this, many Neurologists with a particular interest in MS are now recommending that all patients with MS take a vitamin D supplement.

What are the risks of taking vitamin D?

Doctors usually wait until a drug has been definitely shown to benefit patients before prescribing it, but given that vitamin D is both very safe and very cheap, it seems reasonable to suggest everyone with MS takes a supplement of vitamin D.

How much should I take?

One problem is that the correct dose of vitamin D is unknown. The dose found in most multivitamins is too small to correct low vitamin D levels, so our practice at Addenbrookes is to suggest taking around 4,000 - 5000 international units (IU) of vitamin D3. Taking this dose daily would probably provide an adequate dose to top up vitamin D levels safely.

Where can I get it?

Capsules containing 1000 units and 5000 units can be bought at health food centres or over the internet (which may work out cheaper). Doctors can only prescribe much lower doses in tablets, so buying the higher dose yourself is a better option.

Can pregnant women take it?

While it remains unclear whether high doses of vitamin D is safe in pregnancy, women who are planning to conceive or are pregnant should take only a standard multivitamin tablet designed for pregnancy, rather than the higher dose.

Any other questions?

This leaflet does not take the place of your clinician's advice. If you want to discuss this subject further feel free to ask your Neurologist or Specialist Nurse at your next appointment or call the Specialist Nurse on: 01223 257160.

Privacy & Dignity

We are committed to treating all patients with privacy and dignity in a safe, clean and comfortable environment. This means, with a few exceptions, we will care for you in same sex bays in wards with separate sanitary facilities for men and women.

Reference

Burton JM, Kimball S, Vieth R, Bar-Or A, Dosch HM, Cheung R, Gagne D, D'Souza C, Ursell M, O'Connor P. 2010 A phase I/II dose-escalation trial of vitamin D3 and calcium in multiple sclerosis. Neurology Jun 8; 74(23): 1852-9. Epub 2010 Apr 28.



We are currently working towards a smoke free site. Smoking is only permitted in the designated smoking areas.

For advice and support in quitting, contact your GP or the free NHS stop smoking helpline on 0800 169 0 169

Help with this leaflet:



If you would like this information in another language, large print or audio format, please ask the department to contact Patient Information: 01223 216032 or

patient.information@addenbrookes.nhs.uk



Document history

Authors	Neurology Department
Department	Cambridge University Hospitals NHS Foundation Trust, Hills Road, Cambridge, CB2 0QQ www.cuh.org.uk
Contact number	01223 245151
Publish/Review date	July 2011/July 2014
File name	Vitamin_d_and_multiple_sclerosis
Version number/Ref	1/PIN2804