



Multiple Sclerosis Society

## MS Society Vitamin D Factsheet

### Introduction

On Friday 6 February, the scientific open-access journal PLoS Genetics published the results of a trial part-funded by the UK MS Society and MS Society Canada.

The results of the study for the first time show clear associations between genetic and environmental risk factors associated with developing multiple sclerosis (MS).

### What does this study tell us?

- In this study researchers investigated how vitamin D affects a gene associated with MS.
- This preliminary work suggested that vitamin D deficiency early in childhood or before birth MAY increase this risk of a person developing MS later in life
- This study did not look at whether vitamin D can influence the course of MS once a diagnosis has been made
- Genes instruct the way proteins are made, and proteins are the building blocks of the body. This includes building your immune system.
- In people with the MS variant gene, vitamin D acts as a 'signal booster' to the gene, leading it to produce a 'strong' version of the proteins that make up part of your immune system.
- A lack of vitamin D means a 'weaker' version of these proteins are produced. When 'weaker' versions of these proteins are produced a person may be slightly more likely to develop MS.

### What does this mean for me?

- It's important to keep in mind that MS is a very complicated condition that stems from a mixture of environmental and genetic factors that may or may not be inter-linked. Although this study is interesting and it's the first study that shows that environmental and genetic factors MAY be linked, more work needs to be done to prove the theory and determine further environmental factors that may affect genes associated with MS.

### Does this mean I should take vitamin D supplements?

- It is good health advice that everyone (whether you have MS or not) should get the recommended daily amount of essential vitamins and nutrients. You can get the vitamins

and nutrients your body needs from a balanced diet and healthy lifestyle. If you can, spending a healthy amount of time outside is a sensible course of action, not just for MS but for your health in general.

### **What can I do to prevent vitamin D deficiency?**

- A typical person needs 2,000-4,000 international units (50-100mcg) of vitamin D per day which can mainly be obtained through exposure to sunshine; however your body can store up some vitamin D for days when you don't reach this requirement.
- 15 minutes sunshine is enough to give you up to 20,000 (500mcg) international units of Vitamin D. A healthy amount of exposure to sunshine during the summer months, along with a balanced diet, will in most cases enable the body to store enough vitamin D to last through the dark winter months.
- However, care must be taken as overexposure to sunshine may lead to other problems (e.g. skin cancer). It is best to consult a health care professional before dramatically changing your health routine.
- **If you are pregnant and would like to supplement your diet with vitamin D** you can take a multivitamin that includes vitamin D specifically recommended for pregnancy. Any changes you make to your diet or lifestyle during pregnancy or otherwise should be made after consulting with a healthcare professional.
- Please note that the causes of MS are not clear and there are probably more factors involved than just vitamin D, so it is not known whether taking vitamin D supplements will prevent you from getting MS.

### **If I'm pregnant how and when do I take supplements?**

- At the moment you can't buy a single vitamin D supplement which supplies the recommended dose of 10 mcg a day, although there are some supplements which combine the correct dose of vitamin D with calcium. **Again, check with a healthcare professional.**

### **If I'm not pregnant, but still want to take supplements, how much?**

- The Food Standards Agency recommends that pregnant women and those in groups at risk of vitamin D deficiency should take supplements of 10mcg per day (400 International Units)
- The Food Standards Agency states that taking up to 25mcg (1,000 International Units) of vitamin D supplements daily is unlikely to cause any harm in the general population.
- **If you are considering vitamin D supplementation please ask a healthcare professional for advice eg. your pharmacist, nurse, GP, or neurologist.**