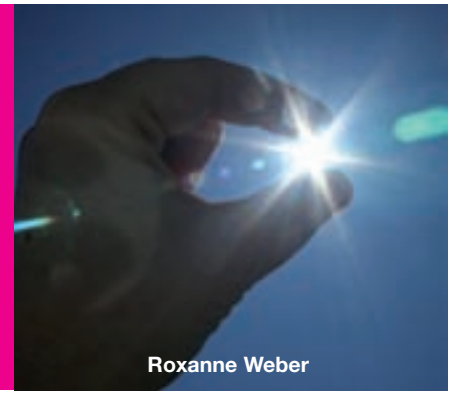


# Vitamin D and MS



The Shine On Scotland campaign fronted by schoolboy Ryan McLaughlin has raised interest in the role of vitamin D in MS. In November 2009, the campaign persuaded the Scottish Parliament to provide information about vitamin D to pregnant women, reflecting advice issued by NICE in England and Wales in 2008.<sup>1</sup> But why this interest and what does the research say?

It is known that MS is more common in countries further from the equator. Vitamin D is manufactured by the skin when it is exposed to sunlight. This has led to the hypothesis that low sunlight exposure and consequent low vitamin D production increases the risk of developing MS.

## Vitamin D research

While the evidence to support an involvement of vitamin D in MS is still not conclusive, a number of studies have suggested that there may be a connection.

- A review of blood samples taken from US military personnel when they enlisted found that levels of vitamin D in those who subsequently developed MS were lower than levels in those without the condition.<sup>2</sup>
- In laboratory experiments, researchers showed that a lack of vitamin D alters the DRB1 gene, a gene that has a direct role in the functioning of a healthy immune system. From this it is suggested that a lack of vitamin D during pregnancy and in the early years of life could increase the risk of developing the condition later in life.<sup>3</sup>
- A study of samples from 267 people with MS found that higher levels of 25-hydroxyvitamin D, the hormonal form of vitamin D found in the blood, were associated with a lower relapse rate. Low levels were associated with higher disability scores. People with progressive forms of MS had lower levels than those with relapsing remitting MS.<sup>4</sup>
- Another study of 132 people with MS found significantly lower levels of vitamin D in people experiencing a relapse than in people who were in remission.<sup>5</sup>

Despite these findings, more work is required to clarify the potential therapeutic role of vitamin D supplementation in MS.

## Vitamin D supplements

The normal level of 25-hydroxyvitamin D, which is measured with a blood test, is generally considered to be in the region of 30-100 ng/ml.<sup>6</sup> The Food Standards Agency (FSA) suggests a daily allowance of 25 micrograms (1000 IU) of vitamin D supplements,<sup>7</sup> although some researchers suggest that twice this level or higher might be appropriate.<sup>8</sup>

For many people, adequate levels of vitamin D are possible with reasonable exposure to sunlight and through diet. 15-20 minutes of sunshine a day during the summer months is considered adequate to maintain levels of vitamin D, although longer exposure is required if you have dark skin.

Dietary sources of vitamin D include oily fish, eggs and fortified foods such as margarine and breakfast cereals.

The best approach for supplementing in people with lower levels of vitamin D has not been established and varies depending on the individual. Short courses of high doses can be used to adjust levels, though prolonged supplementation with very high dose can lead to problems such as weakening of bones, high blood pressure and kidney problems.

If you are concerned about your vitamin D levels, speak to your doctor.

### References

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To order the MS Trust's *Vitamin D factsheet*, ring **01462 476700**, email **info@mstrust.org.uk** or visit **www.mstrust.org.uk/publications**.