

# MS and Supplements

By Ashton Embry

The human body is best seen as a biochemical machine. For this machine to work at its best, many specific nutrients are needed in the proper amounts. This includes various proteins, fats, carbohydrates, minerals, vitamins and phytochemicals.

Long term, substantial deviations from the required nutrient intake usually result in one or more biochemical failures that we label as diseases.

An example of such a biochemical failure, due primarily to a long-term deficiency in vitamin D, is the loss of immune regulation such that an autoimmune attack on the central nervous system occurs. When consequent neurological symptoms become apparent, we call such a biochemical failure multiple sclerosis.

## Supplements of Value in MS

A number of nutritional strategies known as the Best Bet Diet are recommended for MS with the goal of slowing or even halting MS progression by restoring biochemical equilibrium. An important part of such strategies is the use of a variety of supplements.

It seems there is an endless list of possible supplements for MS and a day hardly goes by without someone recommending yet another supplement which has had “amazing” results.

There is no doubt it is hard for anyone with MS to decide on a supplement regime that will be most effective while at the same time being reasonably priced.

The main questions seem to be “what supplements are needed?” and “how much of each is optimal?” Other issues include the cost of supplements, where they are best obtained and when they should be taken.

My approach to compiling a supplement list is the same as it is for deciding on any therapeutic approach to MS – I weigh all the scientific evidence to determine if a given supplement has a reasonable chance of being of value.

The main attribute I look for is whether or not the supplement can positively affect the MS disease process mainly through the suppression of autoimmune reactions. The other important role of supplements is to ensure there are no deficiencies of essential nutrients.

The recommended supplements are vitamins, minerals and a few more specialized items, most of which can be easily obtained at a reasonable cost. Suggested amounts for these are found both on the [Best Bet Diet pages on the MSRC site](#) and on the [Supplements Page](#) of this site.

There is no magic list but I think over the years a basic list has emerged. This can then be modified and added to according to one’s specific situation.

I would stress that supplements are not like drugs and that it can sometimes take months before the positive benefits are felt.

## **The Most Important Supplements**

The most important supplements for MS are vitamin D, omega 3 essential fatty acids, calcium/magnesium and antioxidants. Other basic supplements that are worth using are a probiotic, all the B vitamins, and the minerals zinc, copper and manganese.

### *Vitamin D*

Anyone with MS or at high risk of getting MS would be wise to take 4000 IU of vitamin D3 a day as well as a fish oil supplement which contains at least 3-4 g of EPA + DHA. These amounts are a daily average. If you wanted to take 28,000 IU of vitamin D3 once a week the result would be exactly the same. It seems fish oils supplements are readily obtained, but unfortunately pills with a reasonable amount of vitamin D3 are not so easily found, especially in Europe where the maximum dosage per pill is 400 IU. I would emphasize that adequate vitamin D cannot be obtained from fish oil sources due to high amounts of vitamin A associated with such products. 1000 IU vitamin D3 pills can be bought at a reasonable price from American supplement companies on the Internet and I would recommend using such a product. Just type vitamin D and purchase into Google.

### *Calcium & Magnesium*

Because it is essential that dairy products be avoided, an adequate calcium and magnesium supplement is also extremely important. These are found in most stores that sell supplements. Daily dosages of 800 – 1200 mg of calcium and half that amount of magnesium are sufficient.

### *Antioxidants*

Another important category of supplements is antioxidants. There is ample evidence that people with MS tend to be deficient in antioxidants especially during an attack. Antioxidants play a significant role in regulating immune reactions so people with MS want to ensure they consume an overabundance of anti-oxidants through eating lots of fruits and vegetables and using a variety of antioxidant supplements.

Low cost, readily obtainable antioxidants include vitamin C, vitamin E, vitamin A and selenium. It is important to always make sure that these and other supplements do not contain any dairy or gluten fillers. Higher cost, more specialised antioxidants include grape seed extract, alpha lipoic acid, coenzyme Q-10, green tea extract and ginkgo biloba. Given the higher cost and greater difficulty in obtaining these, I recommend using one or two of these.

An even harder choice is whether or not to use inosine, a substance which is currently being tested as a treatment for MS. Inosine raises uric acid level and it is established that uric acid is a powerful antioxidant especially for neutralising perioxinitrite that causes damage in MS. An inosine supplement is fairly costly and also may result in gout. Thus there is no easy answer on its usage at this time.

### *Probiotics, B Vitamins, Zinc, Copper & Manganese*

Other basic supplements that are worth using are a probiotic such as acidophilus, all the B vitamins in a B-50 pill and some minerals such as zinc, copper and manganese. These supplements are mainly for ensuring no deficiencies but also have some beneficial effect on the MS disease process.

### *Avoid Over-Priced and Over-Hyped Products*

I am not a fan of any product that is sold by individuals in pyramid-selling schemes. These products in general tend to be overpriced and of questionable value. For example one such specialized supplement that is currently being flogged this way consists mainly of dairy (whey) protein and is potentially very harmful because of potential autoimmune cross-reactions. I would also caution against any special supplement that is touted, through anecdotal stories, to work miracles with a variety of diseases. To me, the recommended supplements are rather straightforward and do not include any exotic or miraculous products.

### *New Supplements – Glucosamine*

Finally, it is always worth watching for a new recommendation for a supplement. Such an addition to the list is usually the result of recent research. For example glucosamine has recently been found to be very beneficial for EAE, the experimental version of MS. Is it worth adding glucosamine to your supplement regimen? I would say if your current nutritional strategies are not 100% effective then perhaps give glucosamine (1500 mg/d) a 6-month trial.