Multiple sclerosis is a progressive, degenerative disease of the central nervous system and is the major neurological disease of young adults in the Western world. Affecting about one per thousand, it is most common in white people and is almost unheard of in some Asian countries such as Japan, Korea and China. It affects women much more frequently than men.

The diagnosis of MS is an elaborate process, but is frequently made without a firm basis. Consequently, a false diagnosis is made in about 20 to 30% of cases that were originally labelled as MS.\(^1\)

A widely held view is that no pharmaceutical or other therapies exist that can confer prolonged remission of MS.\(^2\) However, as we will see, there are some obvious steps that can be taken to prevent MS, and there is the possibility of some degree of reversal.

**MS IS NERVE DAMAGE**

MS involves many areas of inflammation and scarring of the electrical insulation that surrounds nerves in the brain, spinal cord and possibly optic nerve. This insulation consists of sheaths of a substance called myelin. ‘Sclerosis’ means hardening of tissue, and ‘multiple’ means many, so the name *multiple sclerosis* simply refers to the many hardened areas of the nerves.

With the myelin damaged or completely stripped off the nerves, electrical impulses can leak out of the nerves so that messages are not conveyed properly. MS is thus often debilitating, may affect vision and is sometimes fatal.

Symptoms most often appear between the ages of 20 and 40. When it does occur in children, the overall outcome is apparently no worse than in adults.\(^3\) The demyelination at least partly involves attack by the immune system, which is why MS is known as an *autoimmune* disease. Once demyelination starts, it may continue until all normal myelin is destroyed or until the body’s defences can stop the process.\(^3\)

The disease develops slowly and unpredictably, with no two cases being alike. MS may have periodic flare-ups, with only a few minor attacks spread over decades, or it can develop rapidly into a debilitating state. On average, around 8 years after diagnosis, 40% of sufferers develop a chronically progressive form.\(^4\)

The disease has a striking geographic distribution, with incidence being almost zero at the Equator and increasing dramatically with latitude in both hemispheres.\(^5\) Incidence is also lower at high altitudes, so the conclusion has been drawn that decreasing solar radiation increases the risk of the disease. A consequence of this is that women living in colder, wetter areas are much more susceptible than those living in warmer areas.\(^6\)

Regarding the autoimmune component in MS, this is not necessarily a mystery. Due to factors to be mentioned in the next section, some myelin is abnormally unstable, and one of the factors that can initiate breakdown of this unstable myelin is an immune system reaction to it. Thymus-derived cells (T cells) cross the blood-brain barrier and attack the myelin in the white matter of the brain and spinal cord. The damaging reaction involves toxic radicals.\(^7\)

Early diagnosis of MS is important, as early treatment can prevent or delay the development of disability.\(^8\) MS exhibits extraordinary variation from individual to individual. Symptoms depend on which areas of the central nervous system are most affected. Early symptoms may include bouts of dizziness, extreme fatigue, blurred or double vision, tingling and/or numbness especially in hands and feet, loss of balance and co-ordination, muscular stiffness, slurred speech, tremors, and bowel and bladder dysfunction.\(^8\)

**THE CAUSES AND MECHANISMS OF MS**

A lot of studies, some very recent, have investigated the causes and mechanisms of MS. The geographical distribution points to vitamin D as an important factor, it’s known that free radical attack is a major factor, and saturated fat and alcohol in the Western diet are very significant, as are certain mineral and vitamin deficiencies. Other contributing factors include environmental chemicals, immunisations, infectious diseases and trauma.\(^9\)

The prevalence in the white race was explained by a researcher back in 1975 as being at least partly due to dietary habits.\(^10\) Lack of breastfeeding and excessive consumption of cows’ milk during infancy may be important factors in MS. A lack of essential fatty acids and possibly lack of certain minerals and vitamins during pregnancy and childhood may result in the synthesis of abnormally unstable myelin which then attracts attack by the immune system or breaks down naturally or due to viral infection or trauma. Of these last factors, the immune reaction is probably the most important.

MS is often said to be inherited but heredity is conspicuously absent from the above lists.

**Is MS Inherited?**

In the year 2000, the Department of Biochemistry of the University of Wisconsin-Madison concluded that inheriting genetic risk factors is not sufficient to cause the disease.\(^11\)

Other researchers have noted that free radicals affect gene expression, so it would appear that it is not the genes themselves that are risk factors, but rather damage to them.

Nevertheless, as with almost all diseases, although we don’t inherit the disease itself, we may inherit a susceptibility to it or a weakness in a particular structure or function of the body that will increase susceptibility to the disease if the lifestyle causative factors are present.
Vitamin D Deficiency

The striking way in which the incidence of MS increases with distance from the Equator has led a group of researchers to conclude that one crucial environmental factor is sunlight exposure, which determines the amount of vitamin D produced in the skin. Technically speaking, the vitamin D produced — vitamin D₃ — is a hormone rather than a vitamin because it is made in the body rather than being consumed in the diet. The researchers from the Department of Biochemistry, University of Wisconsin-Madison, explain that, under low sunlight conditions, insufficient vitamin D₃ is produced and, because vitamin D₃ is a selective immune system regulator inhibiting this autoimmune disease, this provides a risk for the development of MS.

The above theory — put forward in a 1997 literature review — explains why the incidence is highest at high latitudes and low altitudes. Interesting examples occur in Switzerland and Norway. In Switzerland there are high MS rates at low altitudes and low MS rates at high altitudes, while Norway has a high incidence inland and a lower incidence along the coast. Re the Swiss case, ultraviolet (UV) light intensity decreases with distance from the Equator, but it increases with altitude due to less atmosphere to filter out the radiation. In Norway, the high prevalence inland is as expected, but along the coast the unexpectedly low incidence is due to the high consumption of fish oils which are rich in vitamin D₃.

A mechanism by which vitamin D lack contributes to MS was proposed in the year 2005. Because women of menstruation age often have low levels of magnesium, and because magnesium is required for the release of nitric oxide (NO) from the cells, a magnesium deficiency can allow NO to increase in the cell where it reacts with superoxide to form an extremely powerful free radical called peroxynitrite. Since vitamin D is paramount for magnesium absorption, a deficiency of vitamin D would therefore lead to free radical generation and nerve damage. Hence the higher incidence of MS at high latitudes and low altitudes.

Supporting this hypothesis, a 1986 study of young MS patients given dietary supplements containing calcium, magnesium and vitamin D for one to two years found that the number of exacerbations was less than half the number that would normally be expected. No side effects were apparent. The authors of the study said that this provides evidence that calcium and magnesium are important for the development, structure and stability of myelin.

Another way in which vitamin D is thought to be protective is that it is associated with decreased secretion of parathyroid hormone, high levels of which tend to facilitate the development of MS. This opinion was published in year 2001.

Saturated Fat

Because recent studies correlate the risk for MS mortality with the consumption of animal products and/or saturated fat, San Diego researchers proposed that whole-food, vegan diets may be effective for preventing and treating autoimmune disorders such as MS. Their prediction is consistent with the extreme rarity of such disorders among sub-Saharan black Africans as long as they follow their traditional almost-vegan lifestyles. The researchers added that there is evidence that vegan or almost-vegan diets are also useful in the management of rheumatoid arthritis and possibly systemic lupus erythematosus.

In a similar vein, Balch and Balch point out that because MS is fairly rare in Asian countries, yet fairly common in the United States and Europe, the reason may be that the high Western consumption of saturated fats, cholesterol and alcohol leads to the production of a hormone-like substance called prostaglandin 2 which promotes inflammation and thereby worsens the symptoms of MS. People in Asian countries typically consume much less fat and their diets are rich in marine foods, seeds and fruit oils which are high in unsaturated essential fatty acids. Preceding the above conclusions, a 1989 study, which was then in its 36th year, found that patients on a low-fat diet deteriorated more slowly, had lower rates of exacerbations and a lower death rate than those on a normal diet. Those on the lower fat diet all reduced their saturated fat intake from an average of 125 gm per day before the study commenced to a very low 20 gm per day. On this low fat intake, deterioration was slight and the death rate was 31%. For the higher fat intake, disability was serious and the death rate was 80%. Among the fats that were not eaten were butter, margarines, hydrogenated oils, peanut butter and all shortenings. The fats that were eaten were any that were fluid at room temperature. The authors suggested that a cause of MS may be a deficiency of essential fatty acids.

A study the following year found that omega-3 fatty acids were lower in people with MS than in those that did not have the disease.

Health writer, Ross Horne, explains in his book, The Health Revolution, Fourth Edition, a possible mechanism whereby fat contributes to the cause of MS. Where the myelin sheath is damaged, lymphocytes of the immune system tend to congregate. Rather than an autoimmune disease, Ross Horne proposes that it is more likely that the blood is thickened by fat, which slows its flow and reduces the supply of oxygen to the cells. The lymphocytes from the blood gather at these stricken cells, where they perish from lack of oxygen and liberate their digestive juices. These aggressive juices damage the myelin nerve sheath leading to MS.

It should be noted that consumed fat is not the only source of blood fat. The body also makes fat from starchy foods, refined sugar and alcohol.

Free Radical Attack

The major degenerative nerve diseases include Alzheimer’s, Parkinson’s amyotrophic lateral sclerosis and multiple sclerosis. Although their causes and mechanisms have not been proven, numerous recent studies strongly suggest that oxygen-derived free radicals play an important role. Free radicals are highly reactive and are capable of reacting with all biological compounds including proteins, fats, cholesterol and carbohydrates.

Although the body uses free radicals for constructive purposes, such as in immune processes for the killing of microorganisms, excessive production of free radicals can result in tissue damage. If the damage is great enough and continues for long enough, degenerative diseases, particularly involving the brain and nervous system, can develop.

When free radical damage occurs to fats and cholesterol, the result is lipid peroxidation which is a well studied phenomenon.

About Free Radicals — for the technically minded

A radical is a group of atoms containing one or more unpaired electrons. Partial reduction of molecular oxygen can generate reactive oxygen species (ROS), which are highly reactive. These include hydrogen peroxide and the free radicals, superoxide (O₂⁻) and the hydroxyl radical (OH⁻). There are also reactive nitrogen species, the common examples of which are nitric oxide (NO) and peroxynitrite (ONO⁻).
Excessive production of hydrogen peroxide and superoxide can result in tissue damage which often involves the generation of the highly reactive hydroxyl radical and other oxidants in the presence of catalytic ion or copper ions. Thus high contents of iron, copper or certain other metals can be risk factors for diseases caused by free radical attack.

Tissue injury, such as that caused by oxygen deprivation or trauma, can increase the availability of metal ions and accelerate free radical reactions. This may be especially important in the brain because areas of the brain are rich in iron and the fluid is unable to bind and thus render impotent released iron ions.

Other factors that increase oxidative damage to nervous tissue include intracellular free calcium ions and excitatory amino acids.

When inflammation is present, the concentrations of reactive oxygen species and reactive nitrogen species can increase dramatically and can overwhelm the antioxidant defenses which would otherwise protect tissues and nutrients from damage. The result can be cell death which is a major factor in a number of degenerative nerve diseases, including multiple sclerosis.

The body's defenders against free radical attack are called antioxidants, which are compounds that scavenge molecules that have been damaged by free radicals, for example, lipid peroxides. The disruption of the delicate balance between pro-oxidants and antioxidants has been implicated in the causes of many chronic diseases, which, besides neurodegenerative diseases, also include atherosclerosis.

**Myelin Damage from Free Radicals**

A study to determine whether reactive oxygen species are likely to play a significant role in the damage to myelin, that constitutes MS, found that not only do the necessary conditions exist for the formation of ROS, but that they may play a significant role in the disease. In fact, free radicals preferentially attack myelin because it contains easily oxidized phospholipids, particularly lecithin. Reactive nitrogen species appear to interplay with the reactive oxygen species to produce double trouble. Nitric oxide is a free radical formed within cells that can play a protective role under oxidative stress or can be toxic in some situations. Normally nitric oxide is an efficient free radical scavenger but when it reacts with the oxygen radical, superoxide, the result is the formation of peroxynitrite which is a more damaging radical than either of the parent ones.

It is now well documented that nitric oxide and peroxynitrite can inhibit energy production within the cell, leading to a serious energy deficiency. Within the brain, susceptibility to damage by these radicals may be dependent on factors such as reduced glutathione. It has been shown that nerve cells are particularly vulnerable to these radicals.

An explanation for why this free radical damage occurs in MS was proposed in the year 2000 as follows. The theory also explains why women suffer much more MS than men.

Women of menstruation age absorb copper more readily so they tend to accumulate more copper than males. Rapidly growing girls have an increased demand for zinc but also have impaired zinc absorption, which is exacerbated by high copper levels. The low zinc levels result in a deficiency of an important enzyme, superoxide dismutase (SOD), which scavenges superoxide radicals. Further, women of menstruation age often have low levels of the important nutrients, magnesium and vitamin B6. Vitamin B6 moderates the production of nitric oxide, while magnesium is required for the cell to release the nitric oxide. The result of deficiency of these two nutrients is increased NO production and its build-up within the cell. The trapped NO combines with superoxide to form peroxynitrite, which is powerful enough to damage myelin.

If there is accumulation of free iron, molybdenum and cadmium, this also increases superoxide production. Since vitamin D is paramount for magnesium absorption, and because magnesium is so important for preventing the formation of peroxynitrite, the lack of sunlight in the higher latitudes may be the underlying factor that sets off the chain of events leading to higher incidences of MS in these areas.

Finally, selenium and vitamin E inhibit the oxidation of lipids, while two lipids, the omega-3 fatty acids EPA and DHA, promote the activity of the SOD enzyme which scavenges the superoxide radical. Therefore these two nutrients also contribute protection against MS.

**Minor Role of Vitamin B12**

Although destruction of myelin is common to both MS and vitamin B12 deficiency, the latter is usually seen in an older age group than that of MS and there is no evidence to suggest that B12 deficiency is a causative factor for MS. However, it is possible that deficiency may aggravate MS in some cases.

**Chemical Toxicity**

Chemical poisoning of the nervous system by pesticides, industrial chemicals and heavy metals may also contribute to the cause of MS. Some toxic man-made chemicals can damage the myelin sheath, especially in susceptible individuals.

A chemical that is particularly suspected of causing MS is mercury. It has a particular affinity for the DNA of cells and inhibits their functions. The main source of mercury exposure is mercury amalgam dental fillings which have been known to produce symptoms virtually identical to those of MS. In support of the damaging role of mercury is the finding that the levels of mercury in MS sufferers are seven times higher on average than in healthy people. Other common sources of mercury include fish and vaccines in which the mercury compound, thimerosal, is commonly used as a preservative.

Also very suspect is the metal, aluminium, according to Dr Hans Neiper who runs a large MS clinic in Germany. Dr Neiper believes that aluminium can damage the myelin sheath. It is present in many deodorants, antacids, soft drinks in aluminium cans, toothpastes and some foods cooked in aluminium saucepans.

**Stress and Psychological Factors**

Stress can be strongly associated with MS, according to health writer, Ross Horne. Stress can increase blood fat and cholesterol levels and also weakens the thymus gland and therefore the body's immune system. In a person who already has MS, stress could be expected to exacerbate symptoms. Psychological factors, in the form of unresolved inner conflicts, can also play a part. As explained by the somatic psychotherapist, Werner Sattmann-Frese, one possible scenario is where a mother cannot cope with her baby's dependency and tends to push the baby towards independence. In order to cope with the pain of not getting his/her needs met, the child decides never to be needy again and never to be dependent on others. In adulthood, this pain might lead to frustration to such an extent that the 'deepest self' brings on a bout of MS so that it is now acceptable and a relief to be needy and to be looked after. Others may create a bout of MS in order to escape for a while from a relationship in which love is confused with clinging to each other. Or, for perfectionists, the MS may provide a forceful end to the compulsion to be perfect, once again bringing relief.
THE PREVENTION OF MULTIPLE SCLEROSIS

As with almost every illness, it is more practical and easier to prevent the disease rather than to wait until it is established and then attempt to reverse it.

As far back as 1975 it was announced that prevention should commence during pregnancy and childhood, based mainly on dietary measures which ensure a sufficient supply of essential fatty acids, minerals and vitamins. Probably the most important preventive factor, right at the outset, is breastfeeding.

Beware of Fat

The widely-observed connection between high fat intake and MS, which was demonstrated by the 1988 study mentioned above, points to a high priority for avoiding excessive fat in the diet. While some unsaturated fat needs to be consumed to provide essential fatty acids, much of the fat, especially the saturated fat in the typical Western diet, needs to be avoided. In particular, avoid or at least minimise fat from red meat, butter, the shortening in biscuits, pastries, croissants, etc., margarines, other hydrogenated oils, deep-fried foods and overgenerous amounts of oils in dressings.

Because all protein-rich foods contain fat (or oil), if adequate protein food is consumed, this should provide adequate fat except perhaps for the addition of omega-3 rich oil. The protein foods that supply high quality unsaturated fat are – with the exception of fish – all from the plant kingdom, namely nuts, legumes and seeds (sunflower, sesame, pepitas and linseed).

The All-Important Vitamin D is Easily Obtained

The low incidence of MS in areas of strong sunlight and the observation that most MS sufferers have low bone density and high fracture rates, tend to confirm that vitamin D deficiency afflicts most MS patients. The hormonal form of vitamin D, vitamin D₃, is thus seen as a crucial factor in inhibiting this disease. Even in genetically susceptible individuals, it was proposed that MS may be preventable by ensuring adequate levels of vitamin D₃ from an early stage.

Hormonal vitamin D₃ is made in the body during exposure to sunlight, the length of exposure required being relatively brief. As a vitamin obtained from food, the researchers say that fish oil is an excellent source (which would not, of course, be part of a vegetarian diet.) How much vitamin D is required to prevent MS? University of Toronto researchers state that total body exposure to the sun easily provides the equivalent of taking vitamin D₃ as a nutritional supplement at the rate of 250 micrograms (10,000 IU) per day. This is much more than is required, which is just as well because of uncertainly over the risk of skin cancer with long exposure. To ensure adequate serum concentrations of vitamin D₃, a total supply of 100 micrograms (4,000 IU) is required.

With regard to toxicity, the researchers say that except in people hypersensitive to the vitamin, there is no evidence of adverse effects up to a total vitamin D supply of 250 micrograms per day. Published cases of vitamin D toxicity all involved intakes of 1,000 micrograms (40,000 IU) per day or more. The currently accepted limit of 50 micrograms per day is much lower than necessary, they say.

Protect with abundant Flavonoids, Zinc, Magnesium and Vitamin B₆

As mentioned earlier, deficiencies of zinc, magnesium and vitamin B₆, particularly facilitate the free radical damage that occurs in MS. Therefore adequate intakes must be ensured for the prevention of MS – as well as the prevention of many other diseases.

Flavonoids provide particular protection against attack by reactive oxygen species. Their antioxidant activity results from scavenging free radicals and from the chelation of iron or copper ions which effectively renders these metals safe and available for their essential nutritional roles.

Flavonoids are abundantly supplied in the diet by a large intake of fresh vegetables and fruits. Also noted for their flavonoid content are tea (preferably green tea) and red wine. Two members of the flavonoid family with powerful antioxidant effects are quercetin and silybin.

Magnesium, being responsible for the green colour of chlorophyll, is abundantly found in plant foods. Rich sources are nuts, legumes, seeds, buckwheat, whole grains, beetroot greens and spinach. Although other green, yellow and red vegetables and fruits have lower levels of magnesium, an abundance of these foods in the diet will contribute substantial magnesium.

Zinc is found abundantly in nuts (especially Brazil nuts), cheddar cheese, legumes, whole grains, eggs, sprouts and spinach.

Vitamin B₆ is abundant in nuts, seeds, whole grains, bananas, avocados, egg yolks, capsicum, spinach and raisins.

In short, a balanced diet of unprocessed plant foods will provide at least a good background level of these vital nutrients. As a top-up to this background level, supplements could then be useful.

Minimise Free Radical Damage

As with the many other diseases that are largely caused by free radical damage – including Alzheimer's and Parkinson's diseases, motor neuron disease, atherosclerosis and cancer – it is crucial in the prevention of MS to minimise those factors that encourage free radicals. From a large body of knowledge accumulated over the years, here are the key points.

First and foremost:

- Avoid surplus iron. Never take iron supplements unless there is iron deficiency. Beware of the more readily available iron in red meat.
- Avoid consuming oxidised (rancid) fats, often occurring in deep-fried foods, biscuits, cakes, pastries, vintage cheese, cured meats, peanut butter, extracted oils, stale shelled nuts and seeds and so on. Rancid fat has a distinctly unpleasant flavour.
- Minimise intake of saturated animal fats.
- Minimise aluminium intake – see below.
- Minimise cadmium intake by eating foods grown without superphosphate fertiliser. Seek organically-grown foods.
- Avoid the powerful oxidant, chlorine, by purifying tap water or drinking bottled or rain water.
- Minimise mercury intake by avoiding dental amalgams, problem fish such as tuna, mercury-containing medications and environmental exposure.
- Minimise exposure to pesticides and herbicides. Seek organically-grown foods, grow your own or at least wash commercial fruits and vegetables with a safe 'organic' cleanser.
- Avoid exposure to industrial chemicals, such as solvents.
- Avoid tobacco smoke, a powerful generator of free radicals.
- Minimise exposure to radiation, especially X-rays.
Plant-Based Diet
Best Prevention

In year 2001, two individual researchers summarised preventive diet and lifestyle for MS. A San Diego researcher proposed a whole food, all-plant diet, except that fish oil supplementation is included. The diet is also supplemented with vitamin D. This regime is proposed as a practical strategy for achieving prevention, while also lowering the risk for many other life-threatening Western diseases.

The other researcher, a contributing editor to *Alternative Medicine Review*, declared that the time-proven MS diet meticulously keeps saturated fats low, includes three fish meals per week and eliminated allergenic foods. Dietary supplementation includes potent vitamin supplements, antioxidants, omega-3 fatty acids (for their anti-inflammatory value) and phytomolecules. Gut malabsorption if it occurs needs to be corrected with digestive enzymes and friendly gut bacteria (probiotics). Also, chronic viruses and other infections need to be treated and regular exercise should be undertaken in order to maintain muscle tone and balance.

Note that this latter regime, “which meticulously keeps saturated fats low,” would need to be plant-based because any red meat or chicken would be providing saturated fat. Fish is included because some of the fish fat, the omega-3 fats, are the most unsaturated of all fats. In a vegetarian diet, the fish can be replaced by flaxseed oil plus mild exposure to sunshine and/or vitamin D supplements.

In summary of the wide range of nutrients that could be used for the prevention of multiple sclerosis, S. Johnson recommends that the following be taken particularly between 14 and 16 years of age. However, because all these nutrients are very essential, presumably the regime could be taken at any age.

To be taken daily are magnesium 100 mg; vitamin B6 25 mg; vitamin B2 10 mg; zinc 15 mg; vitamin D and vitamin E 400 IU each; selenium 100 micrograms; EPA fatty acids 180 mg; and DHA fatty acids 120 mg.

TO PROMOTE SELF-HEALING FOR MS

When sufferers of MS are told that there is no cure, they are likely to conclude that there is no hope and MS can become a nightmare with the prospect of ending up in a wheelchair. However, only a small proportion of sufferers become wheelchair-bound.

As we will see later, a number of sufferers have partly or fully recovered from MS, demonstrating that reversal is possible.

The first thing to do is to carry out the steps necessary for prevention of the disease.

If this is not done, the disease can be expected to progress. As was explained in the preceding section, all of these steps amount to dietary and other lifestyle methods designed to remove the cause and facilitate self-healing.

Orthodox medicine tends to largely ignore the lifestyle research and relies mainly on drugs.

Drug Therapy has Side Effects

Currently available for MS treatment are drugs such as beta-interferons, corticosteroids, azathioprine, cyclophosphamide, intravenous immunoglobulin-G and other chemicals.

Regarding the widely used corticosteroids, it has been difficult to estimate their effect in regard to prevention or reduction of long-term disability.

Drugs appear to be a very inferior approach compared to the likely success of lifestyle methods. As Slovakian researchers said in 1997, the drugs “are not fully satisfactory and are accompanied by serious side effects.”

Promoting Self-Healing Through Diet

The all-important question is, can myelin regrow in the damaged myelin areas (the plaques)? The answer was given in year 2001 by the Department of Neurology of the Mayo Clinic in Arizona, USA.

Repair of myelin does occur frequently, but inefficiently. When new myelin grows, it is thin and is restricted to the periphery of the plaques. In addition, the plaques need to be inactive which presumably means that they are not actively expanding. The amount of repair is related to the amount of damage that has occurred. Early in the development of MS, the repair will be more rapid, whereas with longstanding MS, if it does occur, it will be slow.

From these findings of the Mayo Clinic, two things are clear: (a) treatment and healing need to begin as early in the appearance of the disease as possible, and (b) the causes of the disease need to be removed, first and foremost, so that the plaques become inactive.

A diet described for ‘treating’ MS (which is not treating the disease but facilitating self-healing by the body) was described as far back as 1975. It was based on elimination of saturated fats, the provision of sufficient essential fatty acids, the elimination of allergenic foods and nutrition to support the immune defences.

A quarter of a century later, in the years 2000 and 2001, the advice is still similar. As mentioned under Prevention above, the editor of *Alternative Medicine Review* stated that the time-proven MS diet meticulously keeps saturated fats low, includes anti-inflammatory omega-3 fatty acids and potent vitamin supplementation along with phytomolecules. Allergenic foods need to be eliminated and gut malabsorption is corrected using digestive enzymes and friendly gut bacteria (probiotics).

The Department of Neurology, Ulm University in Germany, recommends that, along with unsaturated fatty acids, there be sufficient protein and freshly prepared fruits and vegetables plus extra vitamin C as a sound basis for re-myelination.

A low fat intake, according to the *American Journal of Clinical Nutrition* in 1998, means an intake of 20 grams per day or less, representing approximately 10% of total calories, which is equivalent to that recommended by Nathan Pritikin. Studies have shown that this level slows the rate of deterioration and lowers the rate of exacerbation of the condition.

Fats to be avoided include butter, margarine, other hydrogenated oils, peanut butter and also shortening (as in biscuits, cakes, pastries, croissants, etc.) All oils that are fluid at room temperature are allowed. To achieve this level of the right kind of fat, according to San Diego researchers, the diet needs to be vegan or almost vegan, meaning entirely plant-based or close to it.

"Do not follow where the path may lead. Go, instead, where there is no path and leave a trail." - Ralph Waldo Emerson
Adopt Natural Health Dietary Guidelines for Balance of Nutrients and Antioxidants

To obtain much higher levels of antioxidant nutrients and less calories than in the typical modern diet, follow Natural Health Dietary Guidelines. These are presented in detail in the Spring 1999 issue of New Vegetarian and Natural Health, pages 54 - 60. This issue is available from the Natural Health Society, $6 posted.

These guidelines are based on three-quarters of total food intake being fresh, green, yellow and red vegetables and fruits, meaning approximately three-quarters to one kilogram daily for a person of average size. More for larger-framed people and less for smaller-framed people.

Fresh vegetables and fruits are the only abundant and ideal sources of vitamin C, carotenoids (from which we make vitamin A), flavonoids, other antioxidants and a host of other phytonutrients. They are also the outstanding sources of the alkaline minerals, potassium, magnesium and calcium, as well as many trace minerals.

The dietary guidelines also include small but regular amounts of legumes, nuts and seeds, supplying high levels of vitamin E, zinc – and selenium if we include a few Brazil nuts frequently.

Other Lifestyle Aspects

Besides dietary changes, a few other things can be expected to enhance healing. Improved ventilation of airways by deep breathing [but not more than about 15 deep breaths at a time to avoid hyperventilation], use sun hats and abstain from donating blood.[6] Treat chronic infections [in Natural Health, this means the use of cleansing diets] and exercise regularly to maintain muscle tone and balance.[5]

As the contributing editor of Alternative Medicine Review stated,[2] “Early intervention with integrative modalities has the potential to make MS a truly manageable disease.” In fact, some sufferers will do much better than merely manage the disease as we will see in the case stories to be described shortly.

Relief with Bee Venom

In a clinical trial of bee venom therapy for MS, reported in year 2001, people who had been diagnosed 10 years prior to the study were administered bee sting venom over a 12-month period.[27]

The bee venom was injected into the skin every other day, the amount being equivalent to one bee sting initially and increasing gradually. The result was that 68% showed some positive effects, with 58% of sufferers showing noticeable improvement. The benefits were most notable for fatigue, endurance, mood, coordination, numbness and later on bladder control. The researchers point out that the results compare favourably with the use of beta-interferon which is approximately 5 times more expensive than bee venom therapy.

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Nutritional Supplements

The nutrients calcium, magnesium and vitamin D, are particularly important as evidenced by a study in which the number of exacerbations was less than half that expected when these nutrients were fed to young sufferers.[51] Note that wherever calcium supplements are used, they should always be accompanied by magnesium.

There are plenty of supplements that can be taken for MS, an extensive list being given in the American text, Prescription for Nutritional Healing.[26] The main ones from the list are:

- Co-enzyme Q10, 90 mg daily for improved circulation and oxygen supply
- Flaxseed oil for omega-3 fatty acids
- Garlic, an excellent source of sulphur
- Vitamin B complex for the immune system and nerves
- Extra vitamin B6 (pyridoxine), vitamin B12 for integrity of the myelin sheath and choline and inositol (to protect myelin)
- Acidophilus bacteria to enhance digestion and absorption of nutrients
- Calcium and magnesium – use chelated form
- Grapeseed extract, a powerful antioxidant and anti-inflammatory
- Digestive enzyme complex – taken with meals to aid digestion
- Selenium, 150 - 300 micrograms daily – an important antioxidant mineral
- Carotenoid complex – important antioxidants
- Vitamin C with bioflavonoids – large doses of vitamin C
- Vitamin E, 400 IU daily and increase gradually
- Vitamin B3, 800 IU daily to aid calcium and magnesium absorption
- Multi mineral complex [preferably colloidal]
SOME SUCCESSES WITH MS
Some years ago I (the writer of this article) met a woman named Lorraine who had been told by doctors two years previously that she could expect to be in a wheelchair within one to two years. Yet, there she was, walking normally and symptom-free except for rare bouts of mild vertigo. Lorraine had adopted Natural Health Dietary Guidelines and also undergone short periods on cleansing diets under professional supervision.

Another case I knew personally was that of a middle-aged woman who could only walk with the aid of a walking stick and was still in danger of falling. She also adopted Natural Health eating and a short period on a cleansing diet, and before long was walking normally without the aid of the stick. Needless to say, she was jubilant about this recovery. Unfortunately, her husband later insisted that they revert to their former eating habits, and her symptoms returned.

Nevertheless, these two cases demonstrate that at least partial recovery is possible.

Three other recoveries were reported by health writer, Ross Horne, in his book _The Health Revolution, Fourth Edition_.

Cases Reported in _The Health Revolution_
Ross Horne reports that Prevention magazine, March 1975 and July 1977, described the recovery of playwright Robert MacDougall, from complete paralysis and blindness, and also the recovery of Lesley Clark of England. Both used dietary methods, eliminating gluten (in wheat and rye), animal fats and refined sugar.

Ross writes that he has personally observed some dramatic recoveries from MS. All three children in one family displayed symptoms ranging from incapacitation of the eldest in a wheelchair to stumbling and loss of coordination with the second child, and slight symptoms in the youngest. The eldest was not expected to live for another year. The family had been on the normal Western diet and endured great stress due to a violent alcoholic father. They moved to the country, the father improved his behaviour and the family adopted the Pritikin diet. The result was that the two youngest children were free of symptoms in two weeks and the eldest, instead of dying, recovered to the extent of walking without assistance and being able to ride a bicycle.

Ross Horne also described the experience of doctors RM Parker and JT Taylor of Amarillo, Texas, which was published in the _Journal of Ortho-Molecular Psychiatry_ 1980:9 (4). Using a modified diet which excluded cereals, dairy products and caffeine, was low in fat and emphasised raw fruits and vegetables, the doctors achieved excellent results with 15 patients out of 20 and slight improvement with the remaining 5. Gains were sustained indefinitely except for a few who required repeat therapy.

The last of Ross Horne’s examples to be mentioned is that of W. Ritchie Russell, formerly Professor of Clinical Neurology at Oxford University, who specialised in the treatment of MS for many years. He used a rest and exercise program which gradually built up to vigorous exercise and included rest at least every six hours. Professor Russell reported almost complete success with all patients who permanently followed his program.

By “success” he meant that in the early stages of MS there was complete and permanent elimination of the disease, while in advanced cases there was total arrest of the progress of MS with great improvement in function. Not one of the patients who participated in the program over a period of 15 years ever had a relapse.

Ross Horne points out that if Dr Russell had realised that exercise reduces blood fat levels, he may then have realised the role of fat in MS and thus the significance of diet, “the most important factor of all”.

A 2002 Testimonial
The following is abridged from a letter by Janet Barsing, Gold Coast, Qld.
My name is Janet Barsing and I am 32 years old. I suffer from an incurable disease called multiple sclerosis which was diagnosed in July 2001.

One night I was feeling pain in my left eye and when I woke next morning the sight in that eye was blurry and the eye felt as though I had been punched by someone. Before long I was unable to see with that eye.

After numerous tests, still with no actual diagnosis, I saw an eye surgeon who organised an MRI scan which showed I had MS in the form of a black spot on my brain. As only one spot was found, I was told that I should not have any more episodes. It is common for some people to have one episode and be fine for the rest of their lives.

I was advised to have regular monitoring with MRI's every six months, that my sight would come back eventually and I shouldn't have any more episodes.

Ten days after I lost the sight in my eye, I woke with pins and needles the length of my left side. I wondered if I had had a stroke.

A neurologist, who deals primarily with MS, was shocked by the rapidity of demyelination in my left side. It was as if plaques had appeared overnight. I was given a grim outcome, told what to expect, etc., and given a drug intravenously over three days for the inflammation. It was a combination of cortisone and prednisone in massive, undiluted quantities.

The side effects were staggering. I couldn't urinate, I couldn't stop shaking, I couldn't have a bowel motion, I couldn't eat, and I still couldn't walk or see out of my left eye. I was also hallucinating. I ended up worse than when I started.

In the end I was on drugs to urinate, drugs to have a bowel motion and drugs to help ease the pain I sometimes suffered. I was 32 and a wreck, a shadow of my former self. I decided that I didn't want to go onto another drug, Betaferon injections, much to the horror of the doctor.

My husband by chance met naturopath, Dr Peter Edwards (PhD), at which stage my episodes were happening so furiously and often that if I was able to walk or function for just two days in a week, I was ecstatic.

I first saw Peter Edwards in February 2002, having trouble getting to his door. My hand was twisted into its usual knot, my leg wasn't working at all, and I was embarrassed to be in such a state. In
IN CONCLUSION

Ross Horne, in one of his other books, *Health and Survival in the 21st Century*, sums up with a view that precisely reflects the Natural Health experience observed in many thousands of cases of a wide range of diseases:

"Multiple sclerosis and so on, regardless of whatever 'high-tech' names are given them, can all be arrested and in many cases completely reversed once the body's chemical imbalance has been corrected and homeostasis restored. The only cases in which the body is incapable of regaining homeostasis and achieving subsequent healing are those in which one or more vital organs have broken down irreparably, but because such complete failure is never a certainty, hope should never be abandoned even in the most advanced stages of degeneration. Even if organs are left with only a fraction of their original capacity, when the causes of toxemia are avoided, the remaining capacity of the organ may still be sufficient to permit normal body functions. The recuperative powers of the body once homeostasis is restored are almost beyond belief."

"Life is a compromise of what your ego wants to do, experience tells you to do, and what your nerves let you do."

- Bruce Crampton

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