Welcome to this Choices leaflet about diet and supplements

MS-UK believes we must listen to the voices of people affected by multiple sclerosis (MS) to shape the information and support we provide. It is these people that bring us perspectives that no one else can give.

For every Choices leaflet we produce, MS-UK consults the wider MS community to gather feedback and uses this to inform our content. All of our Choices leaflets are then reviewed by the MS-UK Virtual Insight Panel before they are published.

This Choices leaflet has been designed with you in mind. We hope it will answer some of your questions and also provide some first-hand experience from those who have been in your position - people who can truly understand and empathise with your current thoughts and feelings.

Every time you find bold text with quotation marks like this, it is a quote directly from someone affected by multiple sclerosis.
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Introduction

A well-balanced, healthy diet is important for everybody to maintain optimum health (1). Many people diagnosed with multiple sclerosis (MS) have questions about whether changes to their diet and nutrition can assist in symptom management. Although not conclusively proven, between 50% and 75% of people with MS have made changes to their diet (2).

I have been influenced to make diet and lifestyle changes after reading the Brain Health campaign by Professor Gavin Giovannoni

Although there is little existing research looking at diet in MS, a recent study using information from nearly 7,000 people with MS from North America, has concluded that a healthy lifestyle and diet are associated with lesser disability and symptom accumulation. The data from this study shows a convincing observational link between diet and disability (3).

I was given no options with conventional medicine. If you do your homework to make sure you eat a balanced diet, there is nothing to lose.
Several diets have been created with MS in mind. Similar themes run through these diets and most involve reducing saturated fats, taking supplements and restricting or eliminating food groups.

It is always suggested that you consult your GP, neurology specialist or MS nurse before starting to take any supplements or making any changes to your diet.

Below you will find an overview of a selection of the more popular diets and additional information about MS specific dietary research and supplements.

A lot of people dismiss the power of diet. The advice I would give for others with MS is to try a diet and see if it helps you. I would also recommend that you give the diet adequate time, don’t quit too early and listen to your body.

I have found that the lighter my body weight, the less pain I suffer. I have reduced alcohol and restricted some fats and incorporated others and maintain a broadly healthy diet and I feel it has had a positive impact on me and my MS.
The Swank Diet

One of the most well-known diet’s relating to MS is the Swank diet. Dr Roy Laver Swank MD PhD, was the first head of neurology at what is now Oregon Health & Science University and began his research into diet and MS in the 1940s. His observations of the prevalence of MS in certain geographic areas led him to believe there was a correlation between MS and diet. Dr Swank believed a low fat diet would help to alleviate some MS symptoms (4).

Follow up research based on the late Dr Swank’s work has been carried out by a former colleague Dr John McDougall. A study titled ‘Low-fat, plant-based diet in multiple sclerosis: A randomised controlled trial’ was published in September 2016. This randomised study was a year in duration and had 61 participants (29 in the control group). The study concluded that although there were no noteworthy positive outcomes in relation to brain magnetic

I am on the Swank diet, but also go gluten free. It was hard to start with but fine now and I have been following it for years
resonance imaging (MRI), relapse rate or disability (scored by Expanded Disability Status Score) over one year there were other encouraging results. The participants involved in the diet showed significant improvements in fatigue and other health outcomes (such as body mass index). The results of this trial show that further research is needed (6).

I followed Swank initially (from 1981), OMS (Professor Jelinek) since 2009. So low saturated fat initially and now plant-based with seafood. Plus high doses of vitamin D and flaxseed oil. I’m healthier in so many ways as a result and do feel better for a clean diet

The Overcoming Multiple Sclerosis diet

Drawing on the Swank research and learning, Professor George Jelinek’s approach focuses on a largely plant-based, very low saturated fat diet, with omega 3 supplements in the form of cold-pressed flaxseed oil. Professor Jelinek was diagnosed with MS in 1999. His mother also had MS. The Overcoming Multiple Sclerosis (OMS) diet has been in existence for over 15 years, and is constantly being worked on as more evidence is gathered (7).

I have followed the OMS diet for about 7 years and won’t go back

Visit www.ms-uk.org to find out more
The OMS diet is part of an ‘evidence based whole lifestyle program approach’ that also includes vitamin D, exercise and meditation (8).

In the HOLISM study (Health Outcomes and Lifestyle in a Sample of people with Multiple Sclerosis) Professor Jelinek and colleagues at the University of Melbourne are looking at expanding the literature and studies available on the effects of lifestyle on the progression of MS. They are especially focussing on the possible benefit of diet, exercise, vitamin D, omega-3 supplementation, and reducing stresses.

The ongoing study recruits participants via online platforms including forums and social media and 2,469 people have taken part in the study with 2,087 giving full data on their dietary habits. Participants in the HOLISM study are followed at two and a half year intervals.

Broadly, the published paper titled ‘The association of diet with quality of life, disability, and relapse rate in an international sample of people with multiple sclerosis’ found that ‘healthy’ consumption of fruit and vegetables and dietary fat predicted better quality of life and less likelihood of higher disability when compared to respondents with a ‘poor’ diet (8).

I made changes after consulting a nutritionist when I was diagnosed in 1999 and I am now following the OMS programme

Professor Jelinek’s foundation holds regular retreats in Australia, the UK and Ireland. The retreats support people with MS in gaining the knowledge and skills needed to make the lifestyle changes to follow the program.
People who follow the OMS lifestyle and diet can also get support from the OMS charity in the form of their active forum, useful exercise videos, regular podcasts and people who are newly diagnosed in the UK or Ireland can request a free copy of the OMS book (7).

I’m following Overcoming MS which has a strict diet. It seems to be doing me good! Basically vegan plus fish and nothing fried, the only oil is extra virgin olive oil and flaxseed oil. The latter to be taken daily as a very rich source of omega-3.

The Wahls Protocol

Dr Terry Wahls is a clinical professor of medicine at the University of Iowa. In 2000 she was diagnosed with relapsing remitting MS (RRMS). A diagnosis of secondary progressive MS (SPMS) followed in 2003. As her condition progressed, Dr Wahls started to use a tilt-recline wheelchair, a situation that continued for four years.

Shortly after Dr Wahls underwent chemotherapy in an attempt to arrest the progression of her condition, she began studying biochemistry, immunology and cell biology. She went on to design a regime of supplements to ‘feed the brain’.

I found that reading the book ‘The Wahls Protocol’ really helped focus me.
In 2007 Dr Wahls worked with Functional Medicine, an organisation focused on working with doctors to improve the health of people with chronic illnesses.

As a result, Dr Wahls designed a diet called the Wahls Protocol. This diet is based on key elements of the paleolithic (or paleo) diet. A paleolithic diet is based on foods similar to those that would have been eaten during the paleolithic era. A paleo diet typically includes lean meats, fish, fruits, vegetables, nuts and seeds – foods that could be obtained by hunting and gathering. Dr Wahls attributes this protocol to an improvement in her health and motor function. She can now walk without mobility aids and cycles to work (4).

“I recommend giving the paleo diet a try - like the Wahls protocol but with some leeway - I can’t eat that much meat every day and don’t like fish - but still found an improvement.”

“Over thirty years ago when I was diagnosed, I read the book by Judy Graham and made sure I changed my diet and took supplements. After attending a seminar with Dr Terry Wahls I changed to grass fed meat, wheat, gluten and dairy free.”
I have tried Dr Wahls diet but found it too difficult to live with. There is so much conflicting information, it confuses me i.e. no legumes so I cut them out, then read another diet that tells me pulses are good. I don’t have dairy or gluten and I find this does improve my MS.

The Wahls protocol eliminates sugar, processed foods, grains (wheat, oats, rice), soy, dairy, eggs, potatoes, tomatoes and legumes (beans and lentils) and increases the intake of grass fed meat, fish, fruit, vegetables (especially green leafy vegetables) and plenty of fat from animal and plant sources, (especially omega-3 fatty acids). The Wahls diet is quite prescriptive about the amounts of certain types of food to eat. The protocol says that a follower should eat six to nine cups of non-starchy vegetables a day and four ounces of protein (fish, specifically twice a week).

Dr Wahls uses these diets and protocols in her primary care and traumatic brain injury clinics. Dr Wahls and colleagues ran a small trial for people with SPMS which included a modified paleolithic diet with supplements, stretching, exercises and electrical stimulation.

I eliminated all dairy from my diet is as a result of reading the Wahls Protocol and OMS books. It’s the one dietary change they both agree on so seems like a good bet.
I avoid dairy and majority of gluten. I also follow Wahls protocol (I do a modified version of the diet by having a plateful of fruit or veg for breakfast and lunch). Regarding supplements, I take vitamin D3, a multivitamin and fish oil daily. I feel better for it

(of trunk and lower limb muscles), meditation and massage. The small uncontrolled pilot study found that there was significant improvement in fatigue for those that completed the study.

The study had a very small number of participants and not all of those that signed up to the study completed the trial. The results were suggestive that further studies are needed (5).

A further study was published early in 2017 evaluating a modified paleolithic diet in the treatment of fatigue and other symptoms in RRMS. This small randomised controlled study found that a paleolithic diet may be helpful in both the treatment and management of MS.

The outcomes found during the study were that there was a reduction in perceived fatigue, positive reports over mental and physical quality of life, there were gains in exercise capacity and improvements in hand and leg function.

Increased vitamin K serum levels were seen in the study participants (compared to the control group) indicating that a modified paleolithic diet may help reduce inflammation (6).
The Best Bet diet

Ashton Embry PhD developed his Best Bet diet and the charity DIRECT-MS (Diet Research into the Cause and Treatment of Multiple Sclerosis) in the late nineteen nineties after his son was diagnosed with MS. His diet is based on the theory that an autoimmune process is ignited by undigested food proteins escaping through the gut wall into the circulatory system. The immune system sees these proteins as invaders and starts to attack. He refers to this as ‘leaky gut syndrome’ (12).

The Best Bet diet focuses on four main areas: foods to avoid, foods to eat in moderation, foods to increase and the use of supplements. The Best Bet diet says that stopping, or restricting the consumption of foods that have a molecular structure similar to myelin, reduces the autoimmune response. Foods that are said to have a similar structure to myelin are listed below.

**Dairy**
Including all animal milks and butters, cheeses and yoghurts made from animal milks and all products that contain them. A suitable alternative is rice milk or low-fat coconut milk.

**Gluten**
Found in wheat, rye, oats and barley, and all products containing

I have tried the Best Bet diet, it was hard for me to stick to, but I felt healthier as a result of a ‘clean’ diet
them. These can be replaced by rice, corn, quinoa and gluten-free flours and grains.

**Legumes**

Beans, peas and pulses, especially soya, and all products containing them. All other vegetables are allowed.

**Refined sugar**

Although not a protein, refined sugar is believed to make leaking of food proteins worse. Alternative natural sweetening agents include honey, maple syrup, fruit sugar (fructose) and stevia.

The Best Bet diet also says there are certain food types that should be eaten in moderation. These are red meats (due to saturated fat levels), omega-6 polyunsaturated fats (found in margarine and cooking oils), grains such as rice and corn/maize and alcohol (other than red wine).

The Best Bet diet encourages people to increase and eat freely fish, skinless chicken breast and game meat, and suggests that vegetables are eaten as much as is possible. Fruit is also encouraged with an emphasis on berries (13).

Supplements are an important part of the Best Bet diet. The diet suggests that a wide range of vitamins, minerals and antioxidants are taken daily including high dose vitamin D (14).

It is also suggested that a person wishing to follow the Best Bet diet has a food intolerance blood test to identify the foods they may be sensitive to (13).
MS and the gut microbiome

There is often a misconception that all bacteria are harmful to humans and pose a threat to our health. Interestingly, there are more bacteria that establish symbiotic relationships with us than microbes that cause ill health.

My tip for others would be to take good quality probiotics, a healthy gut is important

In the last few years there has been a large increase in the number of studies focused upon connecting the gut microbiome with cases of central nervous system autoimmunity. Recent evidence suggests the presence of microbial imbalances in the gut of people with MS.

An unhealthy gut microbiome can be a source of inflammation and this could potentially adversely affect MS, possibly due to the inflammatory response within the gut microbiota. It is felt by some researchers that targeting the gut microbiome with therapeutics could have profound effects in disease progression, as well as managing symptoms of disease. There are various options for targeting the gut microbiome including with antibiotics; phage therapy, which uses bacteria-specific viruses that can be used to target certain bacteria, while leaving others untouched; Faecal Microbiota Transplantation (FMT) which acts as whole gut microbiome replacement in the hope of correcting abnormal gut microbiome structures and functions and dietary supplementation.

Diet is the main factor shaping the structure of the gut microbiome and the microbiome is easily changed with dietary and supplement choices (17).
In Issue 110 of MS-UK’s New Pathways magazine Sharon Peck, who lives with MS and who is a Nutrition Scientist wrote about nine anti-inflammatory foods that may influence the gut microbiome positively.

Vegetables
Particularly rich dark, leafy greens, as they contain polyphenols and antioxidants, which can directly reduce inflammation. Vegetables’ high fibre content feeds the microbiome. A small Italian trial found a high vegetable diet reduced inflammation, improved gut microbiome and helped to improve overall health.

Fruits
Some fruits, especially deeply coloured berries, which are potent antioxidants can reduce inflammation. They also provide food for the microbiome, helping to keep your gut healthy.

Try and make sure you are getting your 5-a-day, and aim for 10 if you can, after the NHS recently reported that 10 portions of fruit and vegetables is even better for us.

Oily fish
Mackerel, salmon and sardines are all sources of essential fatty
acids (EFAs) omega-3s, which UK researchers found increased anti-inflammatory bacteria in the microbiome and may help directly resolve inflammation.

**Nuts**
Nuts are a source of required omega-6 EFA, which can be inflammatory in excess. Walnuts have a balance of omega-6 and omega-3, and research has shown they promote anti-inflammatory microbes. Research found that walnut oil reduced inflammation in a mouse model of MS.

**Seeds**
Seeds are another great source of EFAs. Some seeds, such as flax and chia seeds have a high anti-inflammatory omega-3 content.

**Extra-virgin olive oil**
Extra-virgin olive oil is a source of antioxidant vitamin E and anti-inflammatory polyphenols. A review of multiple trials indicated that this oil could improve inflammatory disease symptoms.

**Ginger**
Ginger has well known anti-inflammatory properties. An Iranian researcher indicated it may reduce inflammation in mice with experimental autoimmune encephalomyelitis (EAE), which is a disease similar to MS.

**Turmeric**
Turmeric has been in the news a lot recently and is now well known for its anti-inflammatory properties, but it has poor absorption. Consume it with healthy fats and black pepper to improve the absorption.
Legumes and wholegrains
Legumes and whole grains are another good source of fibre which could be of benefit to the gut microbiota. Sharon also posted a more detailed and well sourced blog on her website updating the article with all relevant links to the trials and research mentioned (16).

Dietary research

Fasting Mimicking and Ketogenic Diet
Researchers at the University of Southern California (USC) have been looking into a ‘fasting mimicking diet’ to see if it had a positive impact on MS. The diet involves eating half the usual number of calories for three days in every seven. When mice with EAE, which is a disease similar to MS, were fed the diet for three weeks, they showed improvements in their symptoms compared to a control group who maintained a standard diet.

The researchers also checked the safety and potential efficacy of the diet over a period of six months on 60 people who have RRMS through a pilot trial in Berlin.

Some patients were placed on the fasting mimicking diet for a seven day cycle and then placed on a Mediterranean diet for six
months. Some were placed on a ketogenic diet (a high-fat, low carbohydrate diet) for six months. Some participants were part of the control group and retained their normal diet.

Participants who used a fasting mimicking diet cycle followed by the Mediterranean diet and those on a ketogenic diet reported improvements in their quality of life and improvements in physical and mental health. Those on the fasting mimicking and ketogenic diets showed a ‘mild improvement’ in disability measured with the EDSS scale.

The researchers felt that the study had limitations as it did not test whether the Mediterranean diet alone would cause improvements, nor did the study involve a MRI tests to assess disease activity. Larger trials will be needed to better understand the effects and potential benefits of the diet (17).

Valter Longo, the lead researcher looking into the fasting mimicking diet, and director of the Longevity Institute at the University of Southern California has written a book called ‘The Longevity Diet’. The book contains recipe ideas and explains the full science behind the diet.

All the profits from sale of The Longevity Diet are being donated by the author to the non-profit organisations ‘Valter Longo Foundation’ and ‘Create Cures’ with the aim of promoting and sponsoring research on low cost, alternative, and integrated therapies for diseases and long terms conditions such as Alzheimer’s disease, cardiovascular diseases, diabetes and MS (16).

“The Mediterranean diet is dead easy to follow and it’s good as it’s only eating fresh food”

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Research into diet quality and disability in MS

A study titled ‘Diet quality is associated with disability and symptom severity in MS’ was published in December 2017 and involved around 7,000 people with MS. It assessed how diet quality in people with MS is associated with disability.

There have been all round benefits to my overall health from the changes I have made to my diet. I never catch colds and IBS [irritable bowel syndrome] and gastric troubles of the past have never returned. If I accidentally eat dairy or gluten my stomach is immediately very upset and my MS fatigue and clumsiness worsens.

Researchers at John Hopkins School of Medicine used the NARCOMS (North American Research Committee on Multiple Sclerosis) dataset to look at the intake of specific foods and disability severity in people with MS.

Participants completed a dietary screening questionnaire that estimates intake of fruits, vegetables and legumes, wholegrains, added sugars and red or processed meats.

The researchers constructed an overall diet quality score for each individual based on these food groups and the higher the score the healthier the diet. They then assessed the association between diet quality and disability status.
I have had MS for 25 years. In the last 5 years my symptoms have worsened, making SPMS the likely diagnosis. Nevertheless, I am still eating a healthy diet, taking supplements and making it to the gym regularly. I am fairly sure my continued diet, supplementation and exercise has had a significant positive impact on my wellbeing and fitness over the last two decades.

Of the 7,639 responders, 6,989 reported physician-diagnosed MS and provided dietary information. Participants with highest diet quality scores had lower levels of disability and lower depression scores. Individuals reporting a composite healthy lifestyle also had lower odds of reporting severe fatigue, depression, pain, or cognitive impairment.

Researchers concluded that the large cross-sectional survey suggests a healthy diet and a composite healthy lifestyle are associated with lesser disability and symptoms in MS (3).

As I am also taking a DMT [disease modifying therapy] I do not know to what extent the diet is helping, but I certainly feel healthier overall.
Dietary supplements

There are many dietary supplements available to support a variety of health needs and in recent years the health food market place has been flooded by a variety of supplements and vitamins. Below we list some of the main dietary supplements and vitamins that people with MS may choose to take.

Vitamin D

Vitamin D is important for a healthy immune system, brain development and function, and the cardiovascular system (heart and blood vessels). Vitamin D helps the body to absorb calcium and phosphorus – the building blocks for strong bones. There has long been an association between MS and vitamin D. MS-UK has a dedicated Choices leaflet on the subject. You can download a copy from our website or order a physical copy by contacting MS-UK.

I have taken vitamins and supplements for over 20 years. Do they work? I don’t know, but I may be worse if I didn’t and they must have been beneficial to my body and what harm can they do?

I do feel the difference from taking supplements. With vitamin D there was almost an instant change. It even helped me sleep better.
Lipoic acid

Lipoic acid was looked at during a study titled ‘Lipoic acid for neuroprotection in secondary progressive multiple sclerosis: results of a randomised placebo-controlled pilot trial’. The study was a 96 week, double-blind, randomised controlled trial using 1,200mg daily lipoic acid versus a placebo. The main outcome of the study was to look at reduction in whole brain atrophy as observed by MRI. This pilot trial of lipoic acid saw a significant reduction in whole brain atrophy and suggested a clinical benefit whilst maintaining safety, tolerability, and high compliance over 96 weeks. A larger trial is needed to fully confirm the neuroprotective effects, explore clinical benefits (19).

Vitamin B12

The human body needs vitamin B12, also known as cobalamin, hydroxocobalamin or Cobalin-H, to make red blood cells and keep the nervous system healthy. More specifically related to MS, vitamin B12 is needed for a healthy myelin sheath, nervous system and bone marrow. NHS guidelines recommend that adults aged between 19-64 years need about 1.5mcg a day of vitamin B12. Vitamin B12 aids the release of energy from food and can be controlled using diet. Meat, salmon, cod, milk, cheese, eggs and some fortified cereals are a good source. If you do not eat many of these foods you may find a supplement can counter any potential deficiency. According to NHS guidelines, taking 2mg or less a day of vitamin B12 in supplements is unlikely to cause any harm (20). If you are concerned, consult with your doctor as to your optimum dosage.

I took Ginkgo/ginseng and B12 initially and I soon found it helped brain fog and energy levels. I now take CBD oil too
In April 2012, a study, titled “Vitamin B(12) Deficiency and Multiple Sclerosis; Is there Any Association?”, was conducted by the Department of Neurology and Isfahan Neuroscience Research Center, in Iran. This study aimed to evaluate the controversial association between vitamin B12 deficiency and MS.

MS and B12 are often linked because vitamin B12 deficiency can present similar symptoms to MS, such as extreme tiredness and lack of energy, pins and needles, muscle weakness and disturbed vision. If your doctor suspects a person may have MS they will conduct initial blood tests to check for vitamin B12 deficiency to rule this out first.

The study measured vitamin B12 levels in the blood of 60 patients with MS and 38 healthy controls. Thirteen patients with MS and 10 controls were found to have low B12 levels, but there was no significant difference between the two groups. There was also no correlation between the concentration of vitamin B12 and the age of onset, duration, and subtype or disability status (21).

Another study by Dr T Wade, published in 2002 set out to determine whether a combination therapy known as the “Cari Loder regime” reduces disability in patients with MS. This regime involved a combination of lofepramine (an anti-depressant), L-phenylalanine (an amino acid) and intramuscular vitamin B12. The study was carried out in five UK centres on outpatients with MS with measurable disability on Guy’s Neurological Disability Scale (GNDS). Participants had to have experienced no relapses in the preceding six months and not be taking antidepressants. Over a period of 24 weeks all patients received 1mg of vitamin B12 intramuscularly weekly and either 70mg of lofepramine and 500mg of L-phenylalanine twice daily, or matching placebo tablets.

Of the 134 out of 138 patients who completed the trial, researchers found no statistically significant difference between the two groups at entry or at follow up.
However, analysis of covariance suggested that treated patients had better outcomes on four of the five scales used. Patients with MS improved by 2 GNDS points after starting vitamin B12 injections. The addition of lofepramine and L-phenylalanine added a further 0.6 points benefit.

These findings suggest some symptomatic improvement and researchers concluded that a small beneficial effect cannot be ruled out. More research is needed to confirm and explore the significance of this clinically small difference (22).

It has been known for people with MS to use monthly injections of vitamin B12 to help combat fatigue. However, it should be noted that NICE does not recommend vitamin B12 injections for treating fatigue in people with MS because it is ‘confident that an intervention will not be of benefit for most patients’ (23).

**Omega-3**

Omega-3 is a family of fats that are important for health, also known as polyunsaturated fats. Omega-3 is an essential fat, meaning that it is not produced in the human body and needs to be consumed. Omega-3 fats contain different compounds:

- Alpha-linolenic acid (ALA) has important functions and is needed to make other omega-3 fats. ALA is found mainly in vegetable oils, flaxseed (linseed), rapeseed and nuts (walnuts, pecans and hazelnuts) and green leafy vegetables

- Eicosapentaenoic acid (EPA) and docosahexaenoic acid (DHA) are long-chain fats that can be made from ALA in our bodies. They have the most direct health benefits and can play an important anti-inflammatory role (24)

According to the British Dietetic Association everyone should try to eat two portions of fish per week, one of which should be oily fish.
In the UK there is no specific recommendation of a dose for omega-3. People who do not eat fish can get omega-3 from the following foods: nuts and seeds e.g. walnuts and pumpkin seeds; vegetable oils e.g. rapeseed and linseed; soya and soya products e.g. beans, milk and tofu; and green leafy vegetables. Some foods have omega-3 added to them and can be useful sources, especially for vegetarians and others who avoid fish. These include eggs and yoghurt, bread and spreads. These foods will help to increase your omega-3 intake (25).

In April 2018 Medscape Medical News reported on some new research that found eating fish and seafood rich in omega-3 polyunsaturated fatty acids at least once a week combined with taking daily fish oil supplements may lower the risk for MS.

Researchers looked at 1,153 patients with newly diagnosed MS or clinically isolated syndrome (CIS). They found a 45% reduced risk for MS or CIS among those with high fish intake and daily use of fish oil supplements compared with participants who ate fish less than once a month on average and who did not take supplements. Annette Langer-Gould, MD, PhD, Kaiser Permanente Southern California in Pasadena, told Medscape Medical News that the findings give “more confidence” that the omega-3s are providing the observed benefit vs a “substitution effect” and “We found that fish/seafood/fish oil consumption is protective, and we really do think it’s through omega-3 fatty acids”. She continued: “The way I use this kind of data in clinic is when patients ask, ‘How do I lower the risk of my children getting MS?’ I would add this to the list.” “When patients ask about their own diet, I would say we don’t know for sure,” Langer-Gould said. She tells her patients that “two chronic diseases are worse than one, and you already have one, so let’s do everything we can to prevent you from getting cardiovascular disease or diabetes” (26).
So far the wider research on omega 3 and MS has been mixed.

In a piece of research published in 2016 titled ‘Higher intake of omega-3 polyunsaturated fatty acids is associated with a decreased risk of a first clinical diagnosis of central nervous system demyelination: Results from the Ausimmune Study’, it was found that high omega-3 consumption was linked with a significant decrease in demyelination caused by MS (27). Whilst a study completed in 2012 in Norway titled ‘Omega-3 Fatty Acid Treatment in Multiple Sclerosis (OFAMS Study): A Randomised, Double-Blind, Placebo-Controlled Trial’ found that there were no beneficial effects on MS disease activity (28).

In their guidelines for the management of MS, the National Institute for Health and Care Excellence (NICE) have issued a ‘do not do’ recommendation, saying ‘do not offer omega-3 or omega-6 fatty acid compounds to treat MS’. NICE feels that there is no evidence that they affect relapse frequency or progression of MS (29). However, this is not to say that they do not have other benefits.

**Evening Primrose Oil**

Evening Primrose Oil (EPO) contains high levels of the essential fatty acid gamma-linolenic acid. EPO is a common supplement and has had associations with improving some MS symptoms. A recent small study explored the effect of EPO on fatigue and quality of life in patients with MS and had some positive findings.

“I have taken oil of evening primrose and followed a low fat diet since week one of my diagnosis 31 years ago

Visit www.ms-uk.org to find out more
In this double-blind randomised trial, 52 people with MS were chosen and categorised into two groups which received either EPO or placebo. The ‘quality of life and fatigue scale’ was used in the trial and participants were investigated before the treatment and again three months after therapy. The findings were then compared between the two groups. The research found that EPO consumption had no impact on the quality of life in general; however, it had a significant effect on several important aspects of life quality such as the increase of cognitive function, vitality, and overall life satisfaction. EPO also reduced pain and fatigue in comparison to the placebo consumption, but it did not prevent progression of MS (30).

**Nicotinamide adenine dinucleotide (NAD+)**

Nicotinamide adenine dinucleotide (NAD+) is a coenzyme found in all living cells. It exists in two forms: an oxidized and reduced form (abbreviated as NAD+ and NADH respectively). These are the active coenzyme form of vitamin B3 (Niacin). There has been research into NAD+ and MS. According to Judy Graham’s book ‘Managing Multiple Sclerosis Naturally’ NAD+ boosts energy and the immune system (31).

In a study it was reported that NAD+ has potential to be a future therapeutic drug to treat MS. This early stage study will help researchers look into NAD+ as a potential treatment for many autoimmune diseases including MS, but more research is needed in humans to support the findings (32).

The dietary supplement Nicotinamide Riboside (B3) and NAD+ is readily available from many health food shops and many stockists via the internet.

In a blog post titled ‘The top 15 supplements for natural MS treatment’, Dr Ronald Hoffman, who is a complementary medicine
practitioner from New York, recommends that 250mg of NAD+ is taken twice a day (33).

**Coenzyme Q10**

Coenzyme Q10 (CoQ10) is produced by our bodies but diminishes as we age. It is involved in producing adenosine triphosphate (ATP), which is the cell’s main energy source and produces protein. CoQ10 is fat soluble, so Judy suggests that any supplementation should be taken with a meal that contains some fats (31).

A double-blind placebo controlled trial in 2016 explored the effect of high-dose CoQ10 (500mg per day) on fatigue and depression in people with MS. This was a small trial with a total of 48 participants, mostly women and the researchers used the ‘Beck Depression Inventory’ and the ‘Fatigue Severity Scale’ to measure outcomes.

After 12 weeks, significant improvements were seen and the study suggests that CoQ10 supplementation (500 mg/day) can improve fatigue and depression for people with MS (34).

My tip is to have it clear in your mind that you are making a ‘lifestyle change’ to support your MS. This will likely include dietary changes, supplements, yoga, Pilates, walking or exercise, meditation and mindfulness. It’s a lifestyle change that helps us manage symptoms better and improves our health and hence MS.

Visit www.ms-uk.org to find out more
I suggest mainly eating wholefoods and have a high vegetable intake, and my tip is to take plenty of B vitamins and Essential Fatty Acids (e.g. safflower oil or flaxseed oil).

Scour the internet for yummy recipes (e.g. The Food Allergy Hub). Interestingly, sites for children/babies are a great source of recipes for dairy/gluten free meals, you can use them and adapt them for the adult pallet (more salt/pepper, spices etc).

You can exchange white sugar for molasses, maple syrup, coconut sugar or honey if you have to have something sweet. To lessen the sweet addiction, I use drops of apple cider vinegar on anything. It takes a while to work, but it does.

My tip is to purchase a slow cooker. I use a slow cooker for one pot cooking, great when you are tired at the end of the day and a delicious meal just needs serving up. It makes life so much easier.

If you fancy cakes and biscuits - make them yourself instead of buying. That way you know what’s in them. (And because it means more effort you do it less often!)

I suggest mainly eating wholefoods and have a high vegetable intake, and my tip is to take plenty of B vitamins and Essential Fatty Acids (e.g. safflower oil or flaxseed oil).
Allow yourself a treat occasionally. Having MS is enough without depriving yourself of the occasional chocolate or whatever takes your fancy.

When I am well enough to cook, I make more than I need so I can freeze portions to avoid cooking on bad/busy days.

My tip is to plan in advance what you are going to eat, this helps with time management and decision making and helps with fatigue in the kitchen.

I try to plan my meals for the week ahead. I search online for recipes. There’s so much good information out there.

Smoothies are a great way to get a burst of fruit.

Further information:

The Swank diet
www.swankmsdiet.org/the-diet

Overcoming Multiple Sclerosis
www.overcomingms.org

Dr Terry Wahls
www.terrywahls.com

Best Bet Diet
www.direct-ms.org
www.mshope.com

Visit www.ms-uk.org to find out more
About MS-UK

MS-UK is a national charity formed in 1993 supporting anyone affected by multiple sclerosis. Our hope for the future is a world where people affected by MS live healthier and happier lives.

MS-UK has always been at the forefront of promoting choice, of providing people with all the information and support they need to live life as they wish to with multiple sclerosis; whether that be through drugs, complementary therapies, lifestyle changes, a mixture of these or none at all.

We will always respect people’s rights to make informed decisions for themselves.

The MS-UK Helpline

We believe that nobody should face multiple sclerosis alone and our helpline staff are here to support you every step of the way.

Our service is informed by the lived experience of real people living with MS, so we can discuss any treatments and lifestyle choices that are of benefit, whether they are clinically evidenced or not.
New Pathways

Our bi-monthly magazine, New Pathways, is full of the latest MS news regarding trials, drug development and research as well as competitions, special offers and product reviews. The magazine connects you to thousands of other people living with MS across the country.

Available in print, audio version, large print and digitally.

MS-UK Counselling

MS-UK Counselling is open to anyone living with MS and is the only service of its kind available in the UK. Whether you want support coming to terms with a diagnosis or to improve your mental wellbeing, our counselling service is focused on helping you.

All of our MS-UK counsellors are BACP registered or accredited with an in depth knowledge of MS.
About MS-UK

Peer Support Service

Our Peer Support Service enables people to connect with others in a safe space and share experiences on topics of interest. Our Peer Pods take place regularly and are all volunteer led. Please visit the website to find out more www.ms-uk.org/peer-support-service or email peersupport@ms-uk.org.
MS-UK Online

MS-UK’s online service is here to offer a range of activities to stay active and connected for those affected by MS and manage their symptoms to live happier and healthier lives. Activities include exercise sessions, mindfulness courses, chair yoga classes, information sessions and workshops.

MS-UK E-learning

Do you work with or support someone living with MS and want to increase your understanding and knowledge of this long term health condition? Professionals at MS-UK have created an accredited e-learning course that can help you do this. Visit www.ms-uk.org/ms-awareness-e-learning to find out more.
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