An Integrative Approach for Multiple Sclerosis (MS)

Learning What You Can Do

What is MS?

The Multiple Sclerosis Society describes MS as a chronic, often disabling disease that attacks the central nervous system, which is made up of the brain, spinal cord, and optic nerves. The disease can follow different patterns, with unpredictable progress, severity, and symptoms that vary from person to person. Symptoms may be mild, such as numbness in the limbs, or severe, such as paralysis or loss of vision.

MS is believed to be an autoimmune system disease, caused by the body's defense system attacking its own myelin, the fatty substance that surrounds and protects nerve fibers in the central nervous system. The damaged myelin forms scar tissue (sclerosis), which gives the disease its name, and the nerve fibers themselves can also be damaged. When any part of the myelin sheath or nerve fiber is damaged or destroyed, nerve impulses traveling to and from the brain and spinal cord are distorted or interrupted, producing the various symptoms that can occur.

Who Gets MS?

- 400,000 cases are diagnosed in the U.S. annually (200 each week)
- Women are 2-3 times more likely to contract MS than men
- Your risk increases if you have a relative with MS
- MS is more common farther away from the equator, which suggests a possible connection to Vitamin D deficiency

Possible Links / MS Triggers[1]

- Toxins — pesticides/solvents
- Heavy metal load (for example, mercury in dental fillings)
- Exposure to domesticated animals
- Nutrition — a high-animal-fat diet is suspect
- Food allergies and sensitivities (dairy, gluten, etc.)
- GI function, including poor digestion and assimilation of nutrients, and inadequate stomach acid and pepsin production
- Dysbiosis (bacterial imbalance)
- Geographic location, possibly linked to Vitamin D deficiency; a greater incidence of MS is found in higher latitudes, and lower incidence in tropical and coastal populations who eat lots of fish
- Viral infections (Epstein Barr virus)
- Emotional stress

Conventional Treatment Options

Modifying the Disease Course

Certain FDA approved drugs (Betaseron®, Avonex®, and Copaxone®) can reduce disease activity and progression for many individuals with relapsing forms of MS, including those with secondary progressive disease who continue to have relapses. To reduce the severity of attacks, oral or intravenous corticosteroids are given. (Be sure to talk with your doctor or pharmacist about the possible side effects of these drugs.) Antibiotic therapy along with interferon may help combat MS by slowing down enzymes that attack nerve cells, thereby protecting the brain and supporting the immune system.[2]

Managing the symptoms

Symptoms vary greatly from person to person, and even from time to time in the same individual. While symptoms can range from mild to severe, most can be successfully managed with strategies that include medication, self-care techniques, assistive devices, and rehabilitation with a physical or occupation therapist, speech/language pathologist, or cognitive remediation specialist, among others.

After receiving a clinical diagnosis of MS, it is important to work with a healthcare practitioner to determine your unique needs and to create a plan specific for you.

Nutritional Testing

The tests detailed below are specialized tools that can provide further insight into your nutrient status by disclosing food and chemical intolerances that may be contributing to your MS.

Uncovering Food Allergies and Sensitivities

Many people with MS have hidden allergies or sensitivities to certain foods, which can aggravate the body and exacerbate or trigger MS symptoms. Food allergies and sensitivities can damage intestinal mucosa, cause malabsorption of nutrients, lead to abnormal immune reactions, cause leaky membranes, and promote unhealthy yeast growth (*Candida albicans*). When individuals eliminate “problem foods” from their diets, their symptoms often improve.

Testing methods for food allergies and sensitivities include:

- ALCAT (www.alcat.com) — This blood test is the preferred method for identifying food sensitivities. ALCAT can test for over 300 foods, food additives, food colorings, environmental chemicals and molds.

- ELISA — This test indicates the presence of IgG antibodies in patients in response to numerous food allergens. It is considered to be a convenient and easy way to diagnose food allergies, however, some practitioners question its theory and validity. It is also costly and the reliability of results may vary, depending on the lab.

Identifying Nutrient Status

- Spectracell Analysis (www.spectracell.com) — This testing method measures levels of vitamins, minerals, antioxidants, and other essential micronutrients in your white blood cells. The results can uncover deficiencies that standard blood serum tests may miss — deficiencies that can impair health and contribute to disease progression.

Nutrition

Studies have shown that MS patients do better on a diet low in saturated fat and high in essential fatty acids, since too much saturated fat apparently weakens blood vessel walls and breaks down the blood/brain barrier. Essential fatty acids stabilize the nerve sheath and help to strengthen blood vessel walls.[3] Nutritionists believe that nutrition (diet and supplements) provides the best results in controlling MS.

The Swank Low-Fat Anti-Inflammatory Diet

Dr. Roy Swank's research on 144 patients was published on July 7, 1990 in *The Lancet* (the preeminent English medical journal). The results of this very significant study showed that those who followed a specialized diet did not demonstrate any significant deterioration of their condition over a 34-year period. Conversely, those who did not follow the diet deteriorated significantly over the same period.[4] More recent studies have shown that after 44 years, patients who continued to follow this diet still had not shown any significant deterioration of their condition.[5]

The Swank Diet is a low-fat diet, supplemented with fish oil to provide additional omega 3 fatty acids. The outline for this diet is shown below, but we suggest referring to Dr. Swank's **Multiple Sclerosis Diet Book** for his complete diet and recommendations.

1. No red meat for the first year. This includes dark meat of chicken and turkey.
2. After the first year, 3 ounces of red meat is allowed once a week. Red meat is discouraged except for special occasions.
3. Dairy products containing one percent butterfat or more are excluded. (Exceptions are listed in Dr. Swank's book.)
4. All processed foods containing saturated fat are eliminated.
5. Saturated fat intake is not to exceed 15 grams per day.
6. Unsaturated fat intake (oils) should be kept between 20 and 50 grams per day.
7. One teaspoon or 4 capsules of cod-liver oil and one multiple vitamin/mineral supplement is recommended.

The Swank anti-inflammatory diet may help MS patients in the following ways:

1. The overall composition of the diet should help lower cholesterol and reduce platelet stickiness. Polyunsaturated oils appear to help prevent MS deterioration, while cod liver oil inhibits autoimmunity in experimental animals.

Keeping “bad” fatty acids (saturates, trans fats) to a minimum reduces their interference with “good” fatty acids, including the omega-6 GLA (gamma-linolenic acid) and the omega-3s ALA, EPA, and DHA (eicosapentaenoic acid, eicosapentaenoic acid, and docosahexaenoic acid, respectively).

2. This diet should “down regulate” autoimmunity in the MS patient and therefore reduce inflammation. Chronic or severe inflammation breaks down normal tissues, such as myelin, and several studies have found MS patients to have elevated levels of free radical damage.

The Best Bet Diet by Ashton F. Embry

Dr. Ashton F. Embry, PhD, is the scientist behind the research and subsequent creation of **The Best Bet Diet**, and the founder of **DIRECT-MS** (**DI**et **RE**search into the **C**ause and **T**reatment of **M**ultiple **S**clerosis, at www.direct-ms.org).

According to Dr. Embry, there are two main strategies for halting the immune reactions which result in an attack on central nervous system tissue. These two strategies are:

1. Healing a leaky gut to slow down and ideally prevent intact food proteins from entering circulation; and
2. Avoid foods that contain proteins that can potentially mimic self-proteins in the central nervous system. According to Dr. Embry, these foods include all dairy products, grains, legumes (e.g. beans), eggs and yeast. The most problematic grains are those that contain gluten such as wheat, rye, barley and oats.

The key elements of **The Best Bet Diet** for MS are:

1. Avoid or restrict foods that could trigger auto-immunity (i.e. grains, dairy, gluten, legumes, refined sugar, eggs and yeast).
2. Avoid all allergenic foods, which are identified by skin, ALCAT and ELISA tests.
3. Avoid all red meat and margarine.
4. Eat fish and skinless breast of chicken and turkey for protein, fruits and vegetables for carbohydrates, and micro-nutrients and extra virgin olive oil and unrefined sunflower oil for fats.
5. Take as many of the recommended supplements as your budget allows.

Key Supplement Recommendations

Several dietary supplements (detailed below) have been shown to be beneficial for individuals with MS. We have referenced studies that scientifically validate their use. Specific supplement recommendations and dosage levels should be determined on a case-by-case basis. Nutritional therapy is a very effective adjunct to conventional treatment and can be helpful in alleviating the symptoms of MS or altering the natural course of the disease.

Multivitamin / Multimineral Supplements

A high-quality multivitamin / multimineral supplement is recommended to fill nutritional gaps in the diet, support the body’s increased nutrient needs (as a result of having a

chronic illness), address nutrient deficiencies, and support the biochemical conversion of essential fatty acids.[1]

- *Recommended: Pathway MULTI TWO*

Omega 3 Fatty Acids: ALA, EPA & DHA

Omega-3 fatty acids are essential to the human body because every cell needs these vital fatty acids to function properly. Alpha-linolenic acid (ALA) from flax and eicosapentanoic acid (EPA) and docosahexaenoic acid (DHA) from algae and cold-water fish (salmon, mackerel, herring, and sardines) have anti-inflammatory properties and have been shown to be of benefit in auto-immune conditions. From red cell analysis, it was suggested MS patients might have low systemic DHA and EPA content.[6] A small clinical trial (12 patients) with no control patient group suggested that omega-3 fatty acid supplements from fish oil might reduce MS exacerbations.[7]

- *Recommended: Pathway SUPER OMEGA-3*

Omega 6 Fatty Acids: LA & GLA

Linoleic Acid (LA)

Research has shown that patients with MS have low levels of the omega-6 essential fatty acid, linoleic acid (LA). When given LA at 20 grams per day, it was shown to reduce symptoms and the severity and duration of relapses, especially in patients with early disease and minimal disability.[8]

Gamma-Linoleic Acid (GLA)

Gamma-linoleic acid (GLA) is an omega-6 fatty acid found in evening primrose, borage, and black currant seeds, and it has significant anti-inflammatory properties. The body converts LA to GLA. However, many individuals have difficulty making this conversion and are deficient in this fatty acid. GLA produces beneficial hormone-like compounds called prostaglandins. Prostaglandins regulate inflammation, pain, blood pressure, fluid balance, and blood clotting. Zinc, vitamin C, and vitamin B6 aid in the conversion of GLA to prostaglandin E1 (PGE_1), which is responsible for many health benefits in the body.

MS patients often have cold hands and feet, usually an indication of impaired peripheral blood flow. New Zealand researchers have concluded that GLA from evening primrose oil improves peripheral blood flow characteristics as well as hand-grip strength.[9]

- *Recommended: Pathway EVENING PRIMROSE OIL*

Antioxidants

Antioxidants protect the body against free radical damage. They are an important supplement when you're taking increased amounts of essential fatty acids because antioxidants protect these fragile oils from oxidation. Individuals with MS have been shown to be lacking sufficient antioxidants.[1]

- *Recommended: PATHWAY ANTIOXIDANT FORMULA*

Vitamin C, Vitamin E, and Beta Carotene

A study has shown that the levels of these three antioxidant vitamins were significantly lower in MS patients compared to controls. These nutrients provide important free radical protection and help to prevent the oxidation of essential fatty acids.[10]

- *Recommended: Pathway SYNERGY C*
- *Recommended: Pathway PERFECT E*
- *Recommended: Pathway BETA CAROTENE*

Vitamin D

People with higher exposure to sunlight have a lower risk of MS, and at least one study has demonstrated that early sun avoidance seems to precede the diagnosis of multiple sclerosis (MS). This protective effect is independent of genetic susceptibility to MS.[11]

Another study showed an inverse relationship between vitamin D ("the sunshine vitamin") supplementation and risk of MS. They found a 41% risk reduction in women taking 400 IU/day compared to women taking no supplemental vitamin D.[13]

And in a very recent study of high-dose vitamin D supplementation in 12 MS patients taking D3, four patients had complete resolution of gadolinium-enhancing lesions, and eight patients experienced a decline in the number of lesions compared to their baselines.[14]

- *Recommended: Pathway VITAMIN D (1000 IU / 2000 IU)*

Physical Therapies / Exercise

Rehabilitation is an important component of comprehensive, quality health care for people with MS, at all stages of the disease. Benefits include improved circulation and oxygenation, muscle strengthening, reduction in stiffness and muscle spasm, enhanced energy, stress reduction, and lifting the spirit. Be sure to discuss these therapies with your primary care physician to see what suits your needs best.

Rehabilitation programs include:

- Physical therapy
- Occupational therapy
- Therapy for speech and swallowing problems
- Cognitive rehabilitation
- Vocational rehabilitation
- Exercise (yoga, walking, swimming, dancing, classes, rebounder).

Complementary Therapies

Holistic therapies such as reflexology, acupuncture, massage, chiropractic care, meditation, shiatsu, hydrotherapy, cranial sacral therapy, Alexander technique, and

aromatherapy are just some examples of therapies that can be very beneficial to individuals with MS by supporting the body, mind, and spirit.

Possible New MS Therapy

A recent study published in The New England Journal of Medicine, found that the drug alemtuzumab (brand name Campath), which was originally developed to fight leukemia, may stop multiple sclerosis in its early stages and restore lost function to patients. While the drug is still in clinical trials and may not be available for several years, researchers are hopeful that this drug will offer a promising new treatment option for patients with relapsing and remitting multiple sclerosis.

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These statements have not been evaluated by the Food and Drug Administration and are not intended to diagnose, treat, cure, or prevent any disease. Consult your physician if you have any question regarding a medical condition.