Chapter 7  
Alternative Medicine, Wellness, and Diet

Complementary and alternative medicine (CAM) is a controversial subject of considerable interest to many people with MS. CAM, also referred to as unconventional medicine and integrative medicine, is difficult to define. One relatively simple definition describes CAM as therapies that are not widely taught at American medical schools and not generally available in American hospitals. The use of these therapies in combination with conventional medical care is referred to as “complementary medicine”, while the use of unconventional therapies instead of conventional medicine is known as “alternative medicine”.

Because the topic is so broad, making sweeping statements about the usefulness of CAM in MS makes little sense. Each topic should be considered in light of the specific evidence that is available and the particular risks that are involved. CAM techniques should always be discussed with one’s physician to assess the specific risks and benefits. Other guidelines should be followed when considering CAM:

- Consider conventional medicine options.
- Evaluate reasons for wanting to use CAM.
- Obtain accurate, unbiased information about effectiveness, safety, cost, and effort.
- If CAM is used, discuss with physician and monitor response.
- USE CAUTION.

What follows is a brief sampling of the topic. Although there may be therapeutic CAM techniques, none are known to “cure” MS. None are even well established as a way of modifying the disease course in MS. For that reason, CAM should not be considered a substitute for conventional medicine.

Even so, an inquiry into CAM can be very useful. It is a way to methodically consider the broad array of techniques for promoting healing and well being in your life.
**Diet**

There is much controversy and misinformation about the influence of diet in MS. It is important to maintain a well-balanced diet to obtain adequate amounts of a variety of nutrients. The following general guidelines should be maintained regardless of the specific diet approach that one may be taking:

<table>
<thead>
<tr>
<th>Food Group</th>
<th>Daily Servings</th>
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<tbody>
<tr>
<td>Grains</td>
<td>6 to 11</td>
</tr>
<tr>
<td>Vegetables</td>
<td>3 to 5</td>
</tr>
<tr>
<td>Fruits</td>
<td>2 to 4</td>
</tr>
<tr>
<td>Meat</td>
<td>2 to 3</td>
</tr>
<tr>
<td>Dairy</td>
<td>2 to 3</td>
</tr>
<tr>
<td>Other (fats, oils, and sweets)</td>
<td>Sparingly</td>
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</tbody>
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A variety of specific diets are sometimes suggested for people with MS. There is no known benefit for diets that are pectin free, are severely sugar-restricted, or that involve avoidance of allergy-causing foods. Similarly, gluten-free diets have been studied and do not appear to be helpful for MS.

The Swank diet is sometimes recommended. While this diet has been reported to produce positive effects, there are significant problems with the methods that were used in the clinical studies of this diet.

One dietary approach that has produced variable results is a diet rich in polyunsaturated fatty acids. Two out of three clinical studies conducted in the late 1970s and early 1980s produced mildly positive results in people with relapsing-
remitting MS. Consequently, the results are suggestive but not definitive.

Other dietary interventions may be helpful for people with MS. For those with constipation, a high fiber diet may provide relief. An increased fluid intake may be helpful for constipation and for preventing urinary tract infections. For those with fatigue, eating small meals and snacks throughout the day may be helpful.

Some general dietary measures that may be helpful for MS and general health are:

- Consume a variety of foods.
- Eat at least five servings of fruits and vegetables daily.
- Limit saturated fat intake and decrease fat in diet to 30% or less of total calories.
- Eat fish two to three times weekly.
- Choose a diet moderate in salt, sugar, and alcoholic beverages.
- Choose whole grain breads and cereals.
- Drink plenty of fluids, especially water.

**Herbs**

The word herb generally refers to a plant, or part of a plant, used for medicinal purposes. Herbs, like drugs, interact with the cells of the body and can sometimes produce changes in the body. The changes produced by both herbs and drugs can sometimes be beneficial, but could also cause significant harm or even death.

To minimize the risk of harmful side effects, herbs should be used with caution. In particular, herb users should be aware of proper dosing, potential side effects, and potential drug-herb or herb-herb interactions. It is important to recognize that there are many unknown aspects to even the more popular herbs. Herbs contain many different chemicals. The effects of these chemicals on the body, on different diseases (such as MS), and on drugs have not been fully determined. In addition, the quality and composition of herbal preparations are extremely
variable. Several precautions should be followed when using herbs:

- Herbs are frequently used as drugs and should not be assumed as an equivalent or substitute for prescribed medicines.

- Herbs may contain compounds that have not yet been identified or characterized. Herbs contain many different compounds, some of which may interact with other drugs or may be toxic.

- The composition and quality of herbs are variable. Herbs should generally be used for a short time for self-limited, benign conditions. Herbs should be avoided in women who are pregnant or breastfeeding, people with multiple medical problems or taking multiple medication. **Use caution and discuss use with physician.**

Possibly Beneficial Herbs

*Coffee and other caffeine-containing herbs.*

Coffee is one of the most popular herbs in the world. It is of particular interest to people with MS because of its effects on fatigue. While there are no recent studies of the effect of coffee on MS-related fatigue, studies in the general population indicate that coffee improves mental alertness. Coffee’s effects on fatigue are due to one of its chemical constituents, caffeine. Coffee and other caffeine-containing herbs such as tea, chocolate, guarana, and maté are generally safe. One should be aware that caffeine use should be limited or avoided by pregnant women, may provoke bladder problems,
should not be consumed in high doses, and may cause “withdrawal” symptoms such as headache and irritability if discontinued abruptly.

**Cranberries.**
Cranberries are relevant to MS because urinary tract infections (UTI's) are fairly common in some people with MS. Cranberries have long been used in the prevention and treatment of urinary tract infections. Limited studies indicate that cranberries may be effective for preventing UTI's. Since urinary tract infections in MS patients may cause serious problems, including worsening of neurologic difficulties, cranberries should not be used to treat infections, although, it may be reasonable to attempt to prevent infections with cranberries.

**Ginkgo biloba.**
Ginkgo biloba is made from the leaf of the ginkgo tree, the oldest living tree species. Many studies in older people with probable Alzheimer’s disease indicate that it may improve memory. Studies in MS are much more limited. In an animal model of MS, ginkgo produces beneficial effects. In limited human studies, ginkgo has not been shown to be an effective therapy for MS attacks. Whether ginkgo improves MS-associated cognitive difficulties or prevents MS attacks has not been studied. If ginkgo is taken, it is important to be aware that it may mildly decrease the ability of the blood to clot; as a result, it should probably be avoided by those who take aspirin or blood-thinning medications, are to undergo surgery, or have blood-clotting disorders.

**Kava kava.**
Kava kava is an herb that has been used for hundreds of years in the Pacific Islands. Several studies indicate that kava kava may be effective for decreasing anxiety. Since anxiety may be caused by many conditions, people with anxiety should discuss treatment options with a physician or other health provider. Kava kava is usually well tolerated. If it is used, it may cause sedation and thus may worsen MS fatigue or accentuate
the sedating effects of medications, such as baclofen (Lioresal®), tizanidine (Zanaflex®), and clonazepam (Klonopin®). High doses (greater than 300 milligrams daily) may produce significant side effects.

*Psyllium.*
Psyllium is approved by the FDA for the treatment of constipation, a condition to which some people with MS are prone. Psyllium is available in the natural or husk form or in over-the-counter preparations, such as Metamucil. The FDA recommends that psyllium be taken with at least eight ounces of fluid. While psyllium generally does not produce any side effects, it occasionally may cause choking, especially in those who have swallowing difficulties or who do not take it with adequate fluids.

*St. John’s wort.*
St. John’s wort has been used for thousands of years for therapeutic purposes. Multiple clinical studies indicate that it has an antidepressant effect in people with mild to moderate depression. Recent studies indicate that it is not effective for severe depression. Its effectiveness and tolerability in relation to the newer antidepressants is currently being studied. If the use of St. John’s wort is being considered, there are several important issues. Depression should be discussed with a physician. St. John’s wort should not be taken with prescription antidepressant medications. It may decrease the effectiveness of some prescription medications, including oral contraceptives and anticonvulsants. St. John’s wort may cause sedation, nausea, dizziness, or confusion.

*Valerian.*
The root of the valerian plant has been used for more than 1,000 years for its sedating effects. Several studies indicate that it may be an effective therapy for insomnia. Although it is sometimes recommended for anxiety, this has not been well documented in research. Sleeping difficulties associated with MS are often complex and, as a result, should be discussed with a physician. Valerian usually does not cause significant side effects. It may cause excessive sedation.
Possibly Harmful Herbs

Potentially immune-stimulating herbs.
As described elsewhere in this book, MS is a disease that involves excessive activity of the immune system. For this reason, stimulating the immune system is theoretically dangerous. This is a critical point when considering supplementation with herbs, as some herbs may stimulate the immune system. Echinacea is a popular herb that appears to activate the immune system. Other popular herbs with possible immune-stimulating effects that are potentially harmful to people with MS are alfalfa, Asian ginseng, cat’s claw, garlic, and Siberian ginseng. The risks of these immune-stimulating herbs are theoretical since the effects of these herbs on people with MS have never been directly studied.

Herbs with other possible adverse effects.
Some herbs, which are sometimes recommended for people with MS, may produce serious adverse effects. These include:

- chaparral
- comfrey
- ephedra (ma huang)
- lobelia
- yohimbe
- borage seed oil
- coltsfoot
- germander
- scullcap

Vitamins and Minerals

Vitamins are chemicals that the body needs to function, and, with few exceptions, must be obtained from the diet. At this time, it is not known whether there is a role for high doses of vitamins in supplement form. Until there is more information on the subject, it may, in most circumstances, be best to obtain
vitamins from a diet that includes an abundance of fruits and vegetables.

The Food and Nutrition Board of the National Academy of Sciences has recently developed guidelines for vitamins and minerals. The following table describes the minimum level needed (recommended daily allowance (RDA) or adequate intake (AI) and the safe upper level for many vitamins and minerals:

<table>
<thead>
<tr>
<th>Vitamins &amp; Minerals</th>
<th>RDA or AI</th>
<th>Doses to avoid</th>
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<tbody>
<tr>
<td>Vitamin A (beta-carotene)</td>
<td>2333-3000 IU</td>
<td>greater than 15,000 IU/daily may produce multiple toxic effects; greater than 10,000 IU/day in pregnant women may produce birth defects</td>
</tr>
<tr>
<td>Vitamin B3 (niacin)</td>
<td>14-16 milligrams</td>
<td>greater than 35 milligrams/day may produce nausea, flushing, other toxic effects</td>
</tr>
<tr>
<td>Vitamin B6 (pyridoxine)</td>
<td>1.3-1.7 milligrams</td>
<td>greater than 50 milligrams/day may produce nerve injury</td>
</tr>
<tr>
<td>Vitamin C</td>
<td>75-90 milligrams</td>
<td>greater than 1000 milligrams/day may produce diarrhea and kidney stones for smokers</td>
</tr>
<tr>
<td></td>
<td>35 milligrams more for smokers</td>
<td></td>
</tr>
<tr>
<td>Vitamin D</td>
<td>200-600 IU</td>
<td>greater than 2000 IU/day may produce liver injury and other toxic effects</td>
</tr>
<tr>
<td>Vitamin E</td>
<td>15 IU</td>
<td>greater than 1000 IU/day may produce upset stomach and dizziness</td>
</tr>
<tr>
<td>Selenium</td>
<td>55 micrograms</td>
<td>greater than 200 micrograms/day may produce multiple toxic effects</td>
</tr>
</tbody>
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In considering the relevance of vitamins and minerals to MS, it makes sense to consider certain vitamins together (the
antioxidants) and certain vitamins in isolation (vitamin D and vitamin B12).

**The Antioxidant Vitamins**

The antioxidant vitamins, vitamins A (or its safer precursor, beta-carotene) C, and E, are the most frequently used by people with MS. In addition to other functions, these vitamins may decrease the harmful effects of free radicals, chemical compounds that can damage tissue in the brain and other organs of the body. For years it has been proposed that free radicals may play an important role in aging, aging-related diseases, and many other conditions, including MS.

A theoretical justification for using antioxidants in MS is that antioxidants may protect the tissues of the brain and spinal cord from free radicals. Also, in an animal model of MS, limited studies indicate that antioxidants are protective. This, along with other scientific evidence, suggests that antioxidants may be beneficial to the MS disease process. The animal model of MS is notoriously unreliable however, and this benefit has never been shown among people with MS.

Despite the possible benefits, antioxidants may present risks for MS patients. In general, antioxidants can increase the activity of certain immune cells. These cells are part of the problem in MS, and increasing their activity through high dose antioxidant supplementation could conceivably worsen the disease.

Due to the unclear benefits and risks of antioxidants in MS, it may be best for people with MS to obtain antioxidant vitamins through a diet rich in fruits and vegetables. If antioxidant vitamin supplements are taken, it may be reasonable to take low doses.

**Vitamin D and Calcium**

Vitamin D is well recognized for its role in maintaining the health of bones. In a complex way, vitamin D and calcium work together to keep bones healthy. Low levels of vitamin D or calcium may lead to conditions with decreased bone density, known as osteoporosis or osteopenia. People with MS have
some of the risk factors for these diseases. Among these risk factors are being female, inactivity, decreased sunlight exposure, and steroid use. Therefore, maintaining adequate levels of vitamin D and calcium is especially important for people with MS.

Besides its effects on bone, vitamin D mildly suppresses the immune system. Therefore, vitamin D could theoretically be beneficial for people with MS and other autoimmune diseases in which the immune system is excessively active. In an animal model of MS, vitamin D supplementation prevents and slows the progression of the disease, while vitamin D deficiency worsens the disease. Human studies of the effect of vitamin D on MS are in progress.

**Vitamin B12**

Vitamin B12, also known as cobalamin, is required for the production of red blood cells and for proper function of the nervous system. A severe vitamin B12 deficiency produces neurological symptoms that resemble in some ways those seen in people with MS.

A variety of observations have suggested that there may be a relationship between vitamin B12 levels and MS: a small subgroup of people with MS have low levels of vitamin B12, and people with MS more frequently have unusually large red blood cells (this can sometimes be caused by low vitamin B12).

For all people with MS to supplement with vitamin B12 on the basis of these loose associations would be a mistake. However, people with MS are generally evaluated for vitamin B12 deficiency through a simple blood test. For those relatively few people with vitamin B12 levels that are in the low or “low-normal” range, vitamin B12 supplementation should be considered.

**Exercise and Hydrotherapy**

Attitudes about exercise and MS have changed dramatically in the past few decades. Previously, regular exercise was not generally recommended for people with MS. More recently, on
the basis of research that concluded that exercise provides multiple beneficial effects, appropriate forms of frequent exercise programs are now strongly recommended for people with MS.

One study found that 40 minutes of aerobic exercise three times weekly for 15 weeks produced benefits in a wide variety of symptoms, such as walking problems, muscle stiffness (spasticity), and weakness. In addition to improvement in these physical symptoms, exercise also produced improvement in bowel and bladder function and fatigue. There were also emotional benefits, such as decreased depression and anger. Other studies have shown that exercise may improve depression and anxiety.

Other benefits are associated with exercise. Regular exercise may reduce low back pain and prevent osteoporosis, a decrease in bone density that may occur more frequently in MS.

There are many possible exercise programs for people with MS. These may include stretching exercises, walking, running, swimming, and a whole range of other exercises that may be appropriate for all levels of physical functioning. In addition to these conventional methods, exercise may be obtained by unconventional approaches, such as yoga and t'ai chi.

A form of exercise that is particularly helpful for some people with MS is hydrotherapy, or exercising in water. Hydrotherapy offers several benefits. A cool water environment may be a way to exercise without overheating. In addition, the buoyancy of the water provides support that makes movements easier and allows individuals to perform movements that they could not otherwise do on land.

Exercise is a simple approach that produces many health benefits and is generally safe. An exercise program may be developed safely by working with a physical therapist or other appropriate professional.
**T’ai chi**

T’ai chi is a component of traditional Chinese medicine that was developed hundreds of years ago. The slow, rhythmic body movements of t’ai chi may produce the relaxation effects of meditation along with the physical benefits of exercise.

T’ai chi has undergone limited study. One small study of t’ai chi in people with MS found that an eight-week program resulted in improved walking speed and decreased muscle stiffness. Several studies in the elderly indicate that t’ai chi may improve walking steadiness. T’ai chi may also improve strength, fatigue, depression, and anxiety.

T’ai chi is usually well tolerated. It may potentially worsen fatigue and should be done with caution by those with walking unsteadiness.

**Yoga**

Yoga was originally developed as a component of Hindu spiritual practice. It involves three main components: breathing, movement, and posture. Contrary to popular belief, the primary aim of yoga is not to assume the most extreme possible posture. Rather, the focus of yoga is on technique. Yoga may be modified so that it may be done by people with severe arm or leg weakness, pain or other limitations.

Although yoga is quite popular in some countries among people with MS, it has undergone limited investigation. There are no formal studies of the effects of yoga on MS. Limited studies of other conditions indicate that it may reduce stress, anxiety, and pain. It is sometimes reported that yoga decreases muscle stiffness (spasticity), but this has not been studied.

Yoga is usually well tolerated. To obtain benefits from yoga, it should be done on a regular basis for weeks to months. Difficult postures and vigorous exercise should be avoided or done cautiously by people with fatigue, heat-sensitivity, or
balance difficulties, pregnant women, people with lung, heart, or bone disease.

**Massage**

Massage involves manipulation of soft tissue in the body for therapeutic purposes. The type of massage that is now commonly used in the United States is derived from Swedish massage. The effects of massage on people with MS have not been extensively studied. One small study of 24 people with MS found that massage therapy increased self-esteem, improved social functioning, and reduced anxiety and depression. Limited studies also suggest that massage may relieve muscle stiffness (spasticity) and several types of pain, including headache and low back pain. Massage is usually well tolerated. To prevent complications, massage should be avoided or used with caution by women who are pregnant and people with enlarged livers, jaundice, blood clots, and fragile bones.

**Cooling Therapy**

Cooling therapy is a technique that may provide multiple beneficial effects to those people with MS who experience a worsening of symptoms when they get warm. One study even concluded that cooling body temperature by just one degree Fahrenheit improved symptoms for some participants.

Many of the studies of cooling in MS have involved a method that is referred to as "active cooling", which involves the circulation of liquid throughout a garment that covers the head, trunk, and legs. This kind of system may sometimes provide short-term improvement in a wide variety of MS-related symptoms, including fatigue, walking problems, urinary difficulties, weakness, spasticity, speaking problems, visual difficulties, sexual problems, incoordination, and cognitive problems. To date, the studies of cooling have not been held under ideal clinical conditions.

Cooling systems that are “passive” use cold packs or evaporation. Such systems are less well studied than the active systems. One study found some benefit with wearing wet
clothes near a fan and drinking ice slurry. Other techniques include such common-sense measures as cotton clothing, personal fans, ice packs, spray bottles, heat avoidance, and air conditioning or evaporative coolers.

**Acupuncture**

Acupuncture is a therapeutic method developed in China to treat a wide variety of illnesses. It involves the insertion of very fine metal needles into the skin at any of some 400 or more specific points. Limited studies have evaluated acupuncture use in MS. One recent survey of acupuncture use in more than 200 people with MS found that approximately two-thirds reported beneficial effects with a variety of symptoms, while a few people reported mild side effects and worsening of symptoms. Although encouraging, more research is needed in this area.

Acupuncture is usually well tolerated by most of the general population and research has disclosed no well-documented reports of increased risks for people with MS. Those interested in acupuncture should choose an acupuncturist who is well trained and properly licensed.

**Meditation**

Meditation is a “mind-body” therapy that has been used in some form for thousands of years. Meditation is a way to produce the “relaxation response”, a state of relaxation that is associated with decreased anxiety, muscle relaxation, and blood pressure lowering. There are many different meditation methods, including mindfulness meditation, transcendental meditation, and meditation techniques used with Zen and yoga.

There are no large research studies of the effects of meditation on people with MS. In studies of people with other conditions, meditation has been associated with improvement in stress, anxiety, depression, and pain. Meditation may also help cultivate feelings of control, empowerment, and self-esteem.

Meditation usually does not have any risks. However, in people with serious psychiatric diseases, such as severe depression or
schizophrenia, meditation may produce difficulties. If meditation is tried, it is important to recognize that the benefits are not immediate; they generally occur after several weeks or months of practice.

**Prayer and Spirituality**

In the United States, there is increasing interest in the role that prayer and spirituality may play in health. In the general population, surveys indicate that prayer and spiritual healing are especially popular forms of alternative medicine. The interest in, and popularity of, religion and health have led to clinical research studies, many of which are being planned or are currently underway. Although information in this area is limited at this time, the majority of Americans believe that prayer and spiritual faith has healing effects.

There is limited scientific research in the area of prayer and spirituality as it relates specifically to MS. Anxiety and stress, which may be present in people with MS, may be reduced by prayer. This is presumably due to the fact that prayer, like meditation, elicits the "relaxation response". Some symptoms that occur with MS may be affected by spirituality. For example, some studies suggest that anxiety and depression may be lessened by spirituality. Variable results have been obtained in studies of the effect of spirituality on general health, but two recent studies indicate that church attendance is associated with decreased mortality. One study examined the effect of spirituality on diabetes, which is, like MS, a chronic disease with an unpredictable course. It was found that religious devotion was associated with less psychological distress and decreased uncertainty. Among people with heart disease, some research has investigated "intercessory prayer", a type of prayer that is done by one person for the benefit of another person, that seems to have some positive benefits.

In conclusion, some research indicates that prayer may reduce anxiety, and that spirituality may be beneficial for anxiety, depression, and coping with an unpredictable disease process.