

# MS and diet: Finding the links



## **A new study sheds light on future directions for research**

by **Celia Vimont**

Can the symptoms of multiple sclerosis be eliminated through diet? Scour the Internet and you're likely to find proposed dietary treatments—or even supposed cures—for MS. But most so-called “MS diets” have not been subjected to rigorous, controlled studies to prove their efficacy, and those that have been investigated have shown mixed results. A recent study at Oregon Health & Science University (OHSU) in Portland was similarly inconclusive, but was noteworthy because it provides direction for future research and shows the potential benefits for people with MS of making healthy lifestyle changes.

### **Sticking to the diet**

Diets aimed at reducing MS symptoms generally are plant-based, with no meat or dairy allowed—a considerable departure from the typical American diet. These restrictions can make it difficult for participants in studies of MS and diet to adhere to dietary requirements well enough for researchers to observe results.

The OHSU study was similar to other research of this kind in that participants assigned to the experimental group were asked to follow a low-fat vegan diet, but OHSU participants were far more successful in following dietary guidelines than participants in previous studies. (A control group of 29 people was not asked to follow the study diet.) Out of 26 participants assigned to the study diet, 22 were able to successfully adhere to it. The study's leaders point to many reasons for this success.

First was training. To prepare for the study, participants in the diet group joined a 10-day residential training program that included cooking demonstrations, lectures and outings to local restaurants and grocery stores to help them identify foods that would be compliant with the diet. If participants had difficulty sticking to the diet during the study, a dietitian offered counseling. “Most participants said after they learned what food they should be shopping for, they went home and changed their entire pantry,” says Dr. Vijayshree Yadav, the study’s author and the clinical director of the MS Center at OHSU. Similar strategies might be used to support participants’ ability to successfully adhere to dietary requirements in future studies on diet and MS, and could even point the way for people with MS to implement healthy diets at home.

The diet used in the OHSU study was devised by Dr. John McDougall, a colleague of Dr. Roy Laver Swank, founder of the Swank Multiple Sclerosis Clinic in Portland, Oregon.

“Dr. Swank thought that if people with MS cut back on saturated fat, maybe we could make a change in disease activity,” Dr. Yadav says. Dr. Swank noted that the incidence of MS worldwide seemed to follow the consumption of saturated fat, particularly dairy products and red meat, and was lower wherever fish consumption was high. So he conducted well-known, and also controversial, studies on MS and diet, beginning in the early 1950s. He tested his theory in very small trials, which he maintained showed promising results. However, these results were never duplicated in follow-up studies, and the scientific community objected to his lack of rigorous methodology. As a result, his conclusions were never accepted.

Like the Swank diet, the OHSU study diet was plant-based and very low in saturated fat, with a focus on consuming starches, such as potatoes, corn, rice, beans, pasta, oats, fruits and vegetables. Most of the protein in the diet came from beans and lentils; some nuts and a small amount of soy were also allowed.

The OHSU study, published in **Neurology** in May 2014, did not demonstrate any improvements in MS-related relapses or disability over a one-year period. However, it did demonstrate reductions in fatigue, cholesterol levels and weight. It also was the first study on MS and diet in which most participants were able to adhere successfully to the study’s strict dietary guidelines.

### **Lasting change**

Dr. Yadav notes that although larger studies are needed, the results of the OHSU study help to fine-tune our understanding of how managing diet may help people with MS. “The most striking observation from this short study was significant improvement in the fatigue levels in people with MS within one month of starting this diet,” she says. “Fatigue is one of the most disabling symptoms of MS, with limited treatment options. It can be a very important target to be treated with diet.”

Almost half of those who followed the diet experienced less fatigue, while the non-diet group saw no significant difference. Over the course of the one-year study, the diet group

participants lost an average of 20 pounds, while there was no significant change in the non-diet group.

Harry “Lee” Bennett Jr., a 44-year-old participant in the OHSU study who lives in Apple Valley, California, used to eat a typical meat-and-potatoes diet. He was diagnosed with MS at age 40. He says the first three months of the study were difficult, but then he and his wife, Tracie, who does not have MS but who also followed the diet, started to get used to it. The hardest part, he says, was eating out. “We’re very social people, and it’s hard to find a vegan restaurant where we live. Our extended family doesn’t eat this way, so it makes it socially awkward,” he says. However, he adds, “The study staff was very supportive and helped us stay with the diet. Making this a family endeavor really helped too.”

By the end of the 12-month study, Bennett had lost about 65 pounds. “Without all that extra weight, there was much less stress on my body. I felt better than I ever had,” he says. While he has gained back weight since the study ended, some of the dietary changes he made stuck. For instance, he now drinks almond milk instead of cow’s milk, and eats much less meat than he did before.

### **One diet doesn’t fit all**

Denise Nowack, RDN, executive vice president for the Southern California and Nevada Chapter of the National Multiple Sclerosis Society, says that when it comes to diet and MS, one approach may not work for everybody. “People look to diet as a magic bullet to change the course of MS,” she says. “But you have to also consider all the other things that may be going on with a particular person.”

For example, people with MS who have reduced mobility are at risk for developing osteoporosis; others may have bladder and bowel issues. These types of conditions may be helped through different dietary approaches. “Calcium and vitamin D are important for those with osteoporosis, while people with bladder issues may need to limit certain fluids such as caffeine and alcohol,” says Nowack. Calcium-rich foods include dairy products, fish with small bones such as sardines or canned salmon, beans, kale, Swiss chard, spinach, broccoli, and fortified foods such as orange juice. It is important to discuss your options for managing such symptoms or conditions with your healthcare provider.

Nowack notes that it works the other way, too: MS-related symptoms, such as fatigue, can affect the way a person eats, even leading to malnutrition in some cases, as poor eating habits, skipping meals and relying on fast foods can cause deficiencies in essential nutrients. People with MS may also gain weight as their disease progresses and mobility decreases. Depression, another common symptom of MS, can lead to gaining—or losing—too much weight.

Nowack points out that some aspects of the diet Dr. Yadav studied make general sense for people with MS, regardless of the study’s specific findings. “Cutting down on overall fat, especially unhealthy [saturated] fats, choosing healthy unsaturated fats such as nuts and

seeds, and eating more antioxidant-rich fruits and vegetables is healthy for everyone,” she says. She also notes that if a person with MS has another chronic disease such as diabetes, heart disease or hypertension, those conditions may require specific nutritional interventions.

### **What the future holds**

MS researchers are keen to consider more dietary influences on MS. Recent studies have found that reduced levels of vitamin D in the blood appear to be a risk factor for developing MS. (For more information on vitamin D and MS, visit [nationalMSSociety.org/vitaminD](http://nationalMSSociety.org/vitaminD)). Researchers are also investigating links between high levels of dietary salt and MS, and whether antioxidants can block the action of “free radicals,” substances that may help turn on immune attacks in MS.

To map out a research agenda and program recommendations regarding wellness and lifestyle interventions such as diet in MS research, the National MS Society held a wellness strategy meeting in November that involved leading investigators in the field.

Researchers intend to keep studying specific diets, as well. An independently funded trial of MS and a diet that emphasizes avoiding grains and gluten, which was developed by Dr. Terry Wahls, who has MS, is underway at the University of Iowa. Dr. Yadav, who believes diet is a big piece of the MS puzzle, intends to keep exploring the possible links between nutrition, health and MS.

“One year likely wasn’t enough time to see if diet can truly change MS-related inflammation,” Dr. Yadav says. “We didn’t really see any changes in MS relapses or disability measures, although we did see improvements in general health. Whether that would lead to improvements in MS is possible, but we can’t say for sure.”

She is hoping to conduct a longer-term study that could answer some of these questions. “If we can learn more about how dietary habits affect MS, we can fill in the puzzle pieces, and provide more help to people with MS,” she says.

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