

# Inside

BY MICHELLE THEALL

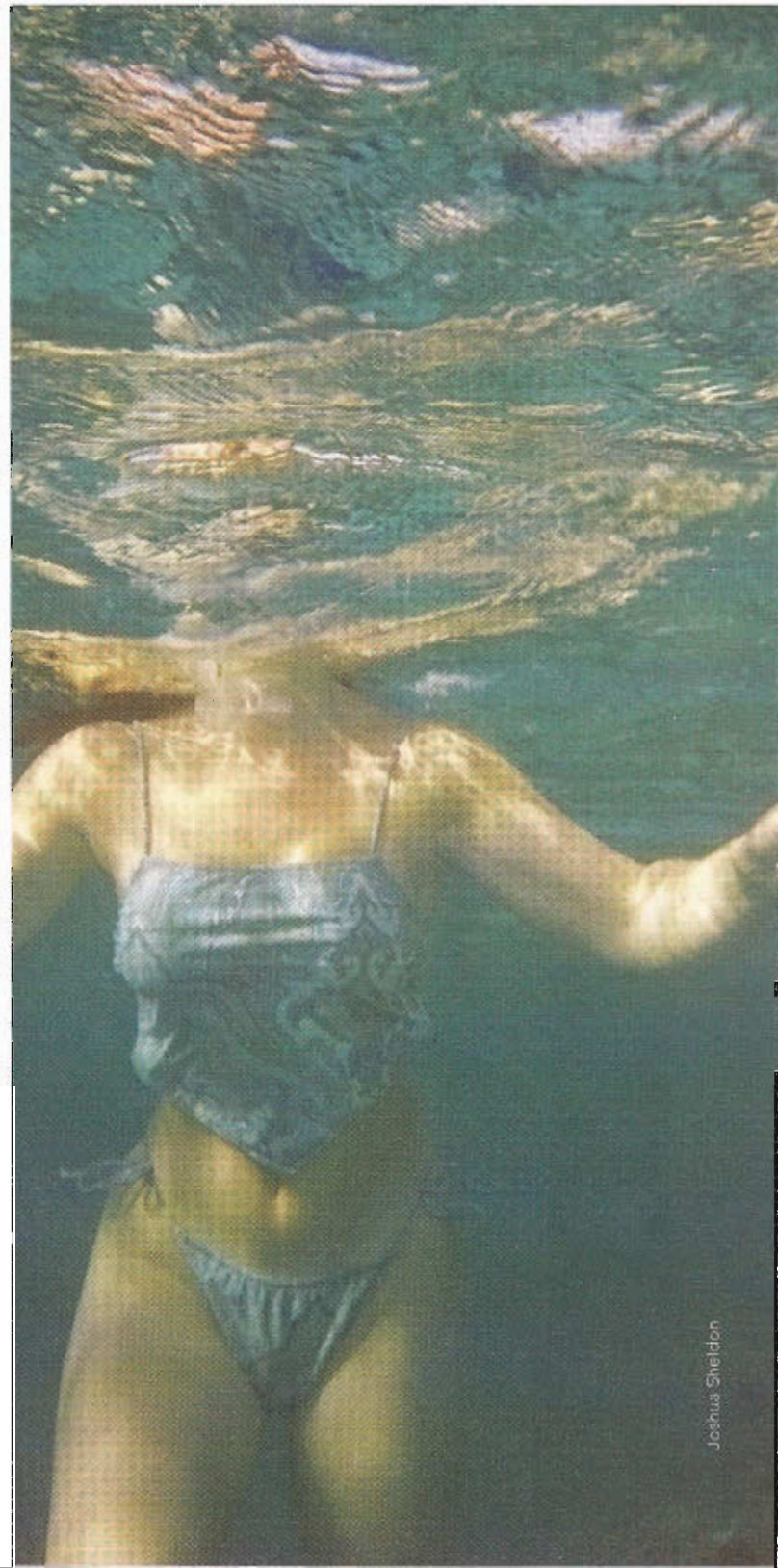
# M.S.

M U L T I P L E

S C L E R O S I S

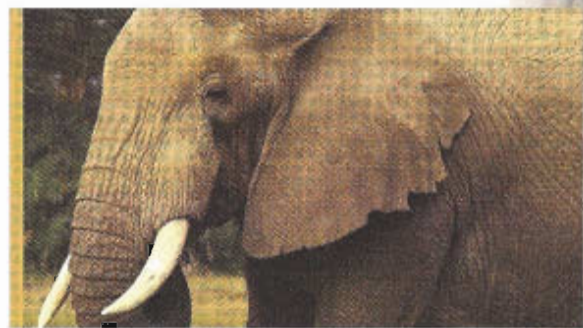


MS is like sprinting  
underwater: **off-balance,**  
**impenetrable, and weighty.**



Joshua Sheldon

Ask 10 different people with multiple sclerosis (MS) what the disease feels like and you will likely get 10 different answers. It's a bit like the story of the blind man and the elephant. When the man feels the elephant's trunk, he believes he has touched a snake. He holds the tusk and envisions a pointy marble spire. As he places his hands on the elephant's foot, he describes a giant tree trunk. In a way, MS is like that elephant. Those touched by it never know how it will feel, even though each rough patch is part of the same animal. Depending on where the attack occurs and how severe the scarring, this progressive autoimmune disease may manifest as numbness, paralysis, memory and cognitive function problems, blindness, bowel and bladder issues, fatigue, muscle spasms, painful sensations, and a host of other unpleasant symptoms.



I have MS, and it often feels like I'm sprinting underwater with someone sitting on my shoulders—off-balance, impenetrable, and weighty. At other times, it presents itself as relentless vibrations coursing through my feet, hands, arms, and face. After three years with this disease, I'm still not sure how it will announce itself on a given day, but its presence is undeniable.

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## GETTING TO KNOW THE ELEPHANT

How can MS vary so much within and between individuals? MS affects the brain and the central nervous system (CNS), and the CNS pretty much controls everything we say, do, feel, see, and think. With MS, the immune system goes haywire and begins attacking the healthy insulating tissue (myelin) that protects the axons in the brain. In my case, the misdirected siege caused nine or so plaques (scarred spots) in various areas of my brain. Since different sections of the brain handle different functions, any activity can be affected, depending on where the scars hit. It's as if MS were a bolt of lightning striking the circuit breaker box in your home—some of the wires might get fried, others remain untouched. The fridge still works, but the surge erased last night's episode of *Desperate Housewives* from your TiVo. When MS strikes it might cause balance or coordination problems one day; another day it may affect your memory or your vision; a month later, you may temporarily (or permanently) lose the use of your legs.

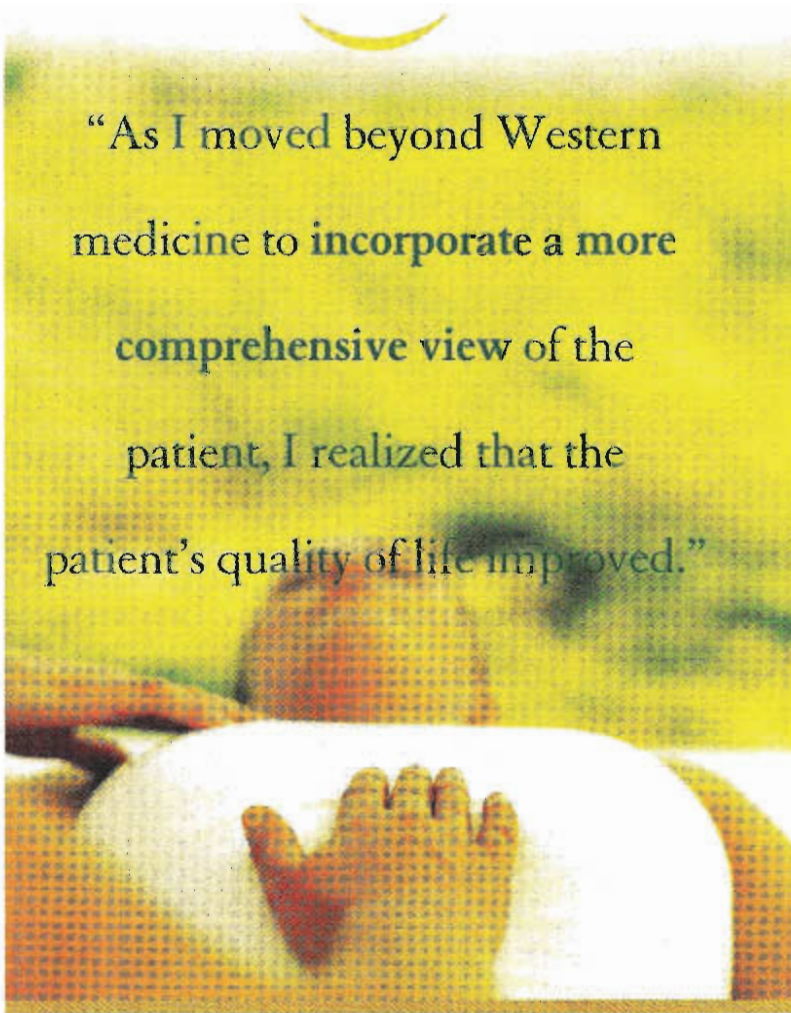
Almost 500,000 people nationwide have MS. In fact, a new person is diagnosed every hour. No one really knows what causes it, but theories abound. Some researchers suggest that a common virus like measles or herpes or even the flu may be responsible; others say a person can be born with a genetic predisposition to react to something in the environment, which will trigger an autoimmune response.

In searching for a cause and a cure, researchers look for common denominators among patient groups—and more than a few exist. This is what they know: MS strikes twice as many women as men; it prefers Caucasians between the ages of 20 and 40; it is more prevalent in geographic areas above 40 degrees latitude.

My own journey with MS started when I was 36 years old. One day while running along a trail in Boulder, Colorado, I fell and twisted my right ankle; not long after that my left ankle gave out, too. The next time out, I tripped and skidded butt-first into a cactus and ended up with quills in my hind-side. Soon the tingling and twitching began in my arms and legs and then surged throughout my body as though I had drunk 20 cups of coffee on an empty stomach. I had trouble sleeping. I dropped things and knocked them over, which I didn't realize at the time was because I'd lost sensation in my fingertips.

For a while after my diagnosis, I blamed everything on MS. If my eye twitched, it was MS. If my hands went numb in 20-degree weather—MS. The dog barking at the FedEx truck? Clearly a symptom of MS.

It took some time, but I finally learned that I am not my disease. And while I can't reverse it, I can learn how to manage it. Turns out, I have plenty of reasons to remain hopeful, including some solid evidence regarding natural and holistic therapies that can help those of us with MS live fuller lives.



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## ALTERNATIVE THERAPIES

Step beyond Western medicine into the realm of holistic neurology, and you'll find a broad view that looks beyond the MRI to examine the whole person. Andrea Cohen, MD, a neurologist who began to move toward a more complementary approach more than five years ago, gets the best results from her MS patients by emphasizing diet, exercise, and stress reduction. “As I moved beyond Western medicine to incorporate a more comprehensive view of the patient, I realized that the patient's quality of life improved,” Cohen says.

## NUTRITION AND DIET

Cohen believes it's important to figure out what causes inflammation in the body, because the immune system in MS patients overreacts to it. Some fairly simple tests that analyze sweat, hair, stool, and urinary samples—as well as more sophisticated and expensive blood tests—may provide the clues to discovering any hidden food allergies. Avoiding foods that cause an allergic, inflammatory reaction helps keep the immune system in balance.

Even without biochemical testing, the average person can do a bit of sleuthing to determine which foods cause problems. In general, saturated fats and trans fats are pro-inflammatory,

while omega-3 fats modulate the immune system. According to Cohen, “Just moving from processed foods to whole foods may alleviate cognitive clouding, fatigue, and inflammation caused by common things like gluten.”

So, could treating MS be as simple as altering the diet to be more healthy? Roy Swank, MD, who served as the head of the Division of Neurology at the University of Oregon Medical School for 22 years, believes so. He created the low-fat Swank MS Diet, which has shown great promise for decades (see sidebar on page 72). Dr. Swank attributes the geographic patterns of MS to the type of foods found in various regions. In populations consuming more than 100 grams of saturated fat per day there is a higher incidence of MS, he claims, and these populations tend to be farther from the equator. Also, the more carnivorous a society, the more cases of MS. In fact, when certain meat products became scarce in Western Europe during World War II, MS incidence decreased.

Rosa, diagnosed six months ago when her left side went numb and her right side seared with pain, adopted the Swank diet right away and has followed it religiously. She remains symptom-free and in good health, a fact she attributes to her diet. “It has been six months since I have tasted ice cream, or cookies, or other junk food. Saturated fats are the killers, and I scrutinize every label. If I go out to eat, I even bring my own safflower oil, olive oil, and balsamic vinegar.”

Rosa believes many conventional doctors don’t understand the role of diet in MS. “Two days ago, I saw my neurologist for my follow-up appointment. I could walk well again and could feel the cold instrument on both sides of my body, yet the neurologist had no answers when I approached the subject of nutrition, rather than drugs, for MS.”

Most alternative practitioners believe diet is key. Some contend eliminating any proteins that could mimic the proteins in the body will halt the autoimmune response. That usually

## (On the Horizon))

### THE MS GENE

)) The Karolinska Institute in Sweden has mapped several genome regions of importance for inflammation in the nervous system and has identified MHC2TA as a gene associated with increased susceptibility to MS, rheumatoid arthritis, and myocardial infarction. This finding, published in the May 2005 edition of *Nature Genetics*, may spur the development of more selective, targeted therapies for people living with MS.

### MYELIN REPAIR

)) Researchers continue to look at ways to repair the damage MS causes. Scientists now know that within MS plaques there are still myelinating cells. Because animal models mirror human myelin formation, scientists believe answers may be found quickly. “If you cut the optic nerve of a goldfish or a frog, it will regenerate and remyelinate,” explains David Colman, MD, holder of the Penfield Chair in Neuroscience and director of the Montreal Neurological Institute. “But this will not happen in humans or any other mammal, and part of our research involves discovering why some organisms have this capacity and why higher organisms have lost it.” The Myelin Repair Foundation, established just over one year ago, has the goal of identifying key factors involved in myelin repair over the next five years. Currently, they are focusing on the role of a newly found protein concentrated in small quantities on the myelin sheath and its role in myelin breakdown.

### ANTIOXIDANT RESEARCH

)) Free oxygen radicals, like nitric oxide (NO), which are by-products of the normal activity of cells, have been found in excess in MS joints and are believed to contribute to the process of demyelination. Antioxidant levels, which counteract free radicals, have also been found to be deficient in MS patients. As antioxidants like alpha lipoic acid and glutathione help protect cells against damage from free radicals, a diet that is high in antioxidant-rich foods, like avocado, zucchini, spinach, and watermelon, as well as antioxidant supplements, may stop damage associated with MS. Understanding the role of antioxidants and oxidative stress in MS may provide clues to disease prevention and treatment.

### SEX HORMONE THEORIES

)) While it’s clear that twice as many women as men get MS, researchers haven’t been able to tell us why. The *Journal of Neuroscience* reports that male mice had almost twice as many myelin-making cells and twice the genetic instructions for making major proteins in myelin as female mice. Myelin-making cells also had a higher death rate in female mice and higher levels of a protein associated with myelin damage. Based on these findings, scientists have begun sex hormone testing in clinical trials with men and women who have MS.

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means cutting out most meats, any gluten-containing grains, dairy, eggs, and sugar. Those with MS should monitor their food intake and eliminate any foods that might cause tingling, fatigue, or other symptoms.

### VITAMINS AND MINERALS

Cohen believes that people with MS who follow a balanced diet could still benefit from supplement use. "Supplements have become necessary because the nutrient quality of our food isn't adequate anymore," she says. Supplements may also be necessary because some people with MS have trouble assimilating nutrients from the food they eat.

Allen C. Bowling, MD, a neurologist and associate medical director of the Rocky Mountain Multiple Sclerosis Center in Englewood, Colorado, advocates the use of alternative therapies as complements to conventional treatments and has sifted through the large body of research on herbal, vitamin, and mineral remedies for MS. According to Bowling, some theoretical scientific evidence supports the use of the following supplements for slowing MS progression:

» **B-Vitamins** (B-complex 100 mg; B12 lozenge 1,000 mcg) aid normal functioning of the nerves and brain, maintain the myelin sheath, support the nervous system, and help battle fatigue. B12, which may be beneficial if your levels are low, is found in eggs, meat, poultry, shellfish, and dairy.

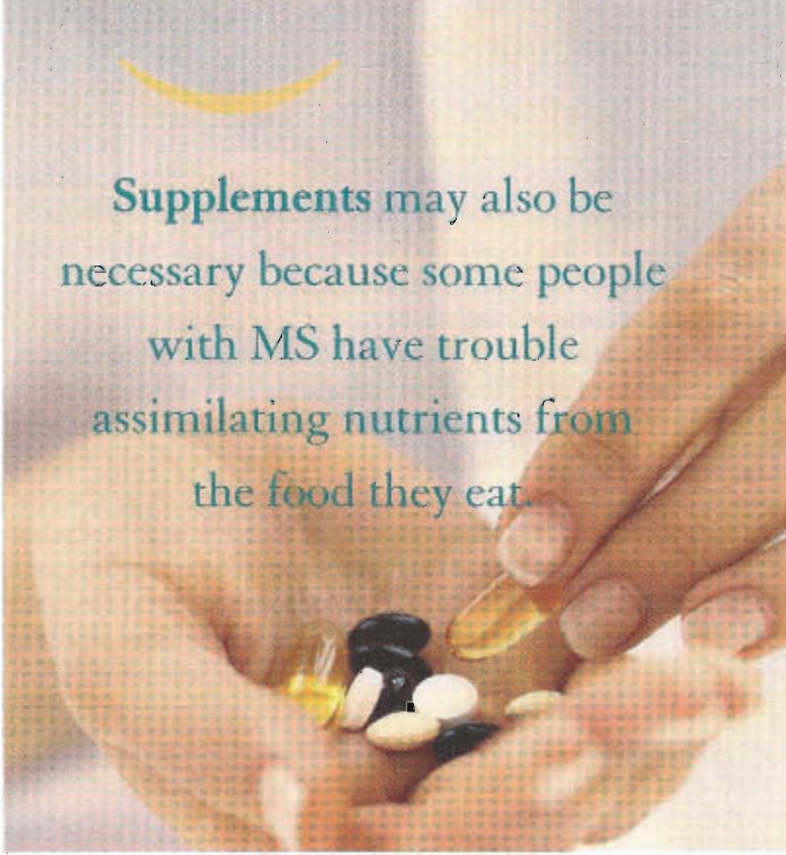
» **Vitamin D** (600 IU) alters immune function in a way that may slow progression. Some studies suggest vitamin D, with its ability to bolster the suppression side of the immune system, might actually prevent MS by shutting down autoimmune responses sooner. Vitamin D is found in fish and natural sunlight.

» **Evening Primrose Oil** (1,300 mg) may also help support immunosuppression; it is also healing for the digestive system, and it contains antiviral properties.

» **Omega-3 Fatty Acids** (fish oil concentrate, 2,400 mg) may slow the progression of MS and create fewer exacerbations. Found in wild salmon, cod liver oil, and elsewhere.

### Rules of the Swank Diet

- No red meat during the first year; after that, just 3 ounces per week
- Less than 15 grams of saturated fat per day
- Less than 50 grams of unsaturated fat per day
- Dairy products must contain 1 percent or less butterfat
- Zero processed foods containing saturated fats or hydrogenated oils
- Daily cod liver oil supplements



Supplements may also be necessary because some people with MS have trouble assimilating nutrients from the food they eat.

» **Magnesium** (take at twice the ratio of calcium) helps relieve stiffness, cramping, and soreness.

Sue, one of Cohen's patients says, "We review the supplements I'm taking frequently and make changes according to how I am feeling and how my life schedule changes." At 47, Sue is training for the Boston Marathon. Everything she puts into her body is potentially helpful or harmful as an athlete with this disease. She uses borage oil, alpha lipoic acid, vitamin D, omega 3s, and the B-vitamins, as well as calcium for bone and joint health.

### GET MOVING

Ten years ago, you would never have heard exercise and MS mentioned in the same breath. Jimmy Heuga, founder of The Heuga Center for MS, changed all that. As an Olympic skier, Jimmy competed at elite levels. When MS struck, his doctors told him to stop. He ignored their advice and participated in landmark research proving the immense value of exercise for those with MS. The resulting article, "Impact of aerobic training on fitness and quality of life in multiple sclerosis," appeared in the *Annals of Neurology* in 1996. Comparing MS patients in exercise and non-exercise groups over a period of 15 weeks, researchers found the exercise group to have improved bowel and bladder function, significant increases in upper and lower extremity strength, reduced depression, anger, and fatigue, and significant improvements in the ability to manage tasks at home and enjoy recreational activities.

When Sue isn't training for marathons, she runs Total  
*continued on page 102*

In general, sending signals from the brain out to the body to connect those neuropathways will keep you mobile.



*continued from page 72*

Tennis Training center in Boulder. Rather than treat MS as a death sentence to her sporting life, Sue became even more committed. “Tennis specifically helps maintain balance, hand-eye coordination, muscle strength, flexibility, agility, and cognitive skills such as concentration and problem solving.”

Cohen agrees: “Exercising your brain recruits different nerves. Changing up the type of exercise you are doing can enhance function.” In general, sending signals from the brain out to the body to connect those neuropathways will keep you mobile.

One caveat: Heat can intensify MS symptoms (though it is not thought to progress the disease or create more damage). Maria, a California native diagnosed 10 years ago recommends swimming as a great way to exercise without overheating. “It’s an incredible cardiovascular workout, is easier on the body, and helps minimize overheating substantially.”

What can you do if you hate to exercise? Recently diagnosed and formerly sweat-averse Marui found yoga to be her sweet elixir. “It works every single muscle in the body, even muscles you didn’t know existed,” she says. “I used to do Bikram yoga, but the heat caused my vision to blur. Now I practice vinyasa [flow] yoga, and I love it because it’s different every time.”

## STRESS MANAGEMENT

Like me, most MS patients recall that their diagnosis came during a particularly stressful time in their lives. Just as stress is thought possibly to trigger the disease, it can also cause MS

to progress in those who already have it. MS doesn’t care if there’s dinner to get on the table, a 2-year-old to be taken to day care, and a stack of papers a mile high to sort through on your desk. Fatigue, one of the more common MS symptoms, only adds to the stress.

Susan, 36, was diagnosed seven years ago and is remaining stable through holistic means and drug therapy. She uses massage therapy, body talk (a form of neuromuscular feedback), hypnotherapy, and EMDR (eye movement desensitization and reprocessing) to achieve emotional balance while maintaining a hectic career in the publishing industry. “Alternative therapies have been an empowering tool to become more connected with my body,” she says.

At the end of the day, the secret to managing MS isn’t really a secret at all. Our good health requires us to commit to a balanced low-fat diet, regular exercise, and stress reduction. Until there is a cure, we must remain vigilant about maintaining our strength and mobility in a body that is under attack. So while the elephant still takes a ride on my shoulders and shakes the floorboards every now and then, I’m happy to report that my MS has remained stable. I run five miles every other day, lift weights, take my supplements, play basketball very badly, watch my diet, and try to keep my stress level in check. I don’t care whether my disease looks like a spire, a snake, a redwood tree, or even the entire elephant—as long as I can continue to dance instead of falling beneath his feet. 