THE HEALTHY BRAIN TOOLBOX

Neurologist-Proven Strategies to Prevent Memory Loss and Protect Your Aging Brain

By Ken Sharlin, MD, MPH, IFMCP

Get the complete book and learn more about Dr. Sharlin, Neurology, and Functional Medicine
Because of my wife’s encouragement and support, I took the big leap to change my trajectory as a practicing neurologist. Thank you, Valerie, with all my heart, for helping me find my purpose. I would also like to express my appreciation to my entire office staff, and my Brain Tune Up! team, including Cällie, Chuck, Angela, Amy, Merry, and Andrew. Gratitude also to my mentors, Dr. Terry Wahls, Dr. Norm Shealy, and the late Dr. John Stone. I want to recognize the pioneers of functional medicine, including Dr. Jeffrey Bland and Dr. David Perlmutter, without whom this would not be possible. Finally, thank you to all of my patients, who have allowed me the privilege of sharing in their own hero’s journeys.
“I love his writing — the actionable, but outside-of-the-typical supplement-box, items we can engage ourselves and advise our patients to do. It’s high time for more nuanced thinking in this arena. I’m thrilled that we’ve got such a cool functional neurologist in our midst.”

—KARA FITZGERALD, ND, IFMCP,
Physician & Clinic Director (The Sandy Hook Clinic),
author of Methylation Diet & Lifestyle and Case Studies in Integrative and Functional Medicine, Faculty member at The Institute for Functional Medicine

“Dr. Sharlin is a board-certified neurologist with expertise in helping people restore the health and vitality of their brains for many years. He is an outstanding clinician, an effective educator, speaker, and a gifted writer. He has my most enthusiastic support for his message to the world. There is hope for those with neurological issues!”

—TERRY L. WAHLS, MD, PHYSICIAN,
“I’ve had the pleasure of working with Dr. Sharlin as a radio show host and a wellness magazine publisher. It quickly became clear to me that he is an excellent communicator, caring physician and healer of the highest caliber. It therefore came as no surprise that Dr. Sharlin would write a book that captures his extensive knowledge and experience walking with his patients on the path to sustained wellness using functional medicine. The subject is important and timely. In this volume, Dr. Sharlin explains the architecture of the brain, how to heal from disease, and practical strategies to reverse cognitive decline and prevent illness, all in an approachable and engaging manner. Since our neurological health in large part determines our quality of life, I can’t think of a more important read for people of all ages.”

—SANDRA GUY MALHOTRA, PhD,
Owner and Editor-in-Chief of Regenerate magazine,
former host of the Generation Regeneration radio show on VoiceAmerica Radio

“Although Dr. Sharlin is a board-certified neurologist (he was an undergraduate English major at Kenyon College), he utilizes his keen storytelling skills to unravel complex illnesses. For the reader, Dr. Sharlin creates a strong literary bedside manner to unravel medical mysteries in a style that is both helpful and hopeful. By redefining the science of healing through the power of common sense, The Healthy Brain Toolbox is a prescription for a healthier lifestyle.”

—GEORGE M. FREEMAN, VETERAN JOURNALIST,
writer, and editor of Ozarks Living magazine
PART 1
THE SCIENCE
CHAPTER 06

HOUSTON, WE HAVE A PROBLEM!

How to Think Outside the Box to Solve a Global Health Crisis
The statistics are staggering. According to Alzheimer’s Disease International, someone in the world develops dementia every three seconds. Worldwide, nearly 50 million people have Alzheimer’s or a related dementia. In the United States alone, more than five million Americans are living with Alzheimer’s, where it is the sixth leading cause of death. The growth rate is steep. Although hope may be on the horizon, there is currently no FDA-approved treatment to prevent these changes or reverse the course of this devastating condition. In the U.S., Alzheimer’s prevalence is expected to reach 16 million by the year 2050.

The Centers for Disease Control and Prevention released a study in 2011 looking at households in 13 states, and found that in 12.6%, at least one adult had memory loss or confusion. Even more concerning, in 5.4% (1 in 20 households), all the adults had experienced increased memory loss or confusion. Sporadic Alzheimer’s makes up the large majority, currently 5.5 out of the 5.7 million Americans. The term “sporadic” suggests that the development of Alzheimer’s disease cannot be predicted by genetics alone. The evidence points toward environmental factors as having a major role in determining the risk of Alzheimer’s disease. Armed with the information gained from this book, it may be possible — for those willing to embark on the journey — to utilize environment-altering strategies to avoid memory loss and protect the aging brain.
The numbers concerning other diseases affecting the adult brain are equally astonishing. **Worldwide, neurological disorders are now the leading cause of disability.** The latest information suggests there are 1 million people in the United States with multiple sclerosis and 2.3 million people globally. The Journal of the American Medical Association published “A Call to Action,” because Parkinson’s disease is the fastest growing of the neurological disorders, with a growth rate surpassing that of Alzheimer’s.

According to the authors, the number of people worldwide with Parkinson’s is expected to double from 6.9 million in 2015 to 14.2 million in 2040. Consider a neurological condition that affects the brain at all ages. Over 15% of all adults complain about severe headaches or migraines, and the prevalence among women is more than twice as high as among men. It is the third most common and the sixth most disabling illness in the world, with healthcare and lost productivity costs associated with migraines estimated to be as high as $36 billion annually, in the United States. **Chronic pain, largely under the control of the brain, is another devastating condition.** It is the most common cause of long-term disability. Conditions like fibromyalgia affect an estimated 10 million people in the United States, and anyone who has this illness will attest that it involves far more than tenderness of muscles.
Brain fog, depression, numbness, gut and bladder dysfunction, fatigue, loss of appetite, and many other symptoms characterize this devastating, total body illness. Here are some of the patients I have seen in my Brain Tune Up! clinic: About 6 years ago, when Janice was 56, her family noticed she was having problems with her memory. At the time, she was working as a bookkeeper in the family business. The early signs were subtle. She would repeat stories, questions, or forget conversations she had. She might say she was going to get groceries, then forget to do so. She made mistakes bookkeeping. Her family physician attributed the problem to “senior moments.” When the mistakes became more frequent, she was sent for an MRI of her brain to rule out stroke. No stroke was identified, but further investigation included a spinal fluid examination, and this test revealed abnormal levels of proteins consistent with Alzheimer’s disease.

Richard, at 76 years old, came to see me for mild cognitive impairment. He is a retired investment banker who had experienced the abrupt onset of depression, anxiety, and “brain fog” after his surgery for benign prostatic hyper trophy, three months earlier. He took medicine for blood pressure, cholesterol, and to help him control the bladder incontinence which followed his surgery. His Montreal Cognitive Assessment score (a measure of several dimensions of memory and thinking) was 23 out of 30 (normal is greater than or equal to 26). Richard needs further evaluation. William, a preacher in his mid 70’s, started to have trouble speaking, at the pulpit. His symptoms progressed over two years and got so bad he had to retire from his work. He would get stuck on words or stop in the middle of sentences. In addition, he has a sleep disorder called Obstructive Sleep Apnea. His wife says the abnormal breathing went on for years before he agreed to get checked by a doctor. She observed loud snoring and pauses in his breath.
He now uses an assistive device at night called **CPAP (Continuous Positive Airway Pressure)**. William had a genetic analysis that revealed two copies of a gene known to place him at high risk for Alzheimer’s disease, called **ApoE4**. Tim was a 48 year old carpenter who, over the past 5 years, had noticed a decline in his memory. The problem had gotten much worse in the months leading up to his neurology appointment and had been interfering with his work. He had trouble with attention, focus, and concentration. He felt like his mind was “short circuiting.” He struggled with adding numbers, normally not a problem. Like William, he had trouble with word-finding. It had become a source of embarrassment. Sometimes the wrong word would come out, and his co-workers would laugh at him when he made these mistakes. He had also gotten lost while driving.

Over the years, he had experienced several emotional blows, including the unexpected death of his father when he was 12, and then that of his stepfather a few years later. He had a difficult marriage that threw him into a state of depression, in the years leading up to divorce and for several years afterwards. He had been a welder, a crop duster, and most recently a carpenter, and with each of these jobs, there was the potential for exposure to toxins like metals, pesticides, paints, varnishes, and mold. Regardless of your reason for picking up this book, it is never too early to think about protecting your brain. The vignettes I share are not limited to memory, nor are they restricted to older age. Tim, whose narrative I just discussed, is 48 years old. Eric and Karen, who follow, are 59 and 32 years old, and their stories are about ALS and fibromyalgia, respectively. **Other conditions, like migraine and multiple sclerosis, can affect a person at any age, and both have the potential to cause a tremendous amount of disability.** So, fasten your seatbelt. You are about to embark on a journey to discover a new way of thinking about the brain. Travel light. The road will not be easy. But along the way you will add some powerful tools to your toolbox to carry with you through the rest of your life! Now, let’s meet Eric.
Eric had a successful career in the corporate world. He was offered an entry-level job with a multinational company when he graduated from college. Over time, he reached Group President, and might have become CEO, but had to retire unexpectedly. He was in his mid-fifties and still active. He thought he was healthy. But he noticed, when running with his son, that his left leg felt weak, and he had a tendency to turn his foot. He visited an orthopedist, who thought he might have a problem with his lumbar spine. A second opinion from a neurologist identified the presence of overactive reflexes in his legs (the response when the knees and ankles are tapped with a rubber reflex hammer) and a nerve test, called electromyography, showed the problem to be more widespread. There was deterioration of the nerves that controlled the muscles of his arms and legs, and those along his spine. The doctor was concerned he might have Amyotrophic Lateral Sclerosis, and a trip to a prestigious medical center confirmed the diagnosis. Eric came to see me because his quarterly follow up visits with his regular neurologist focused on determining if he was in decline, rather than offering hope and common sense science-based options.

Karen is a registered nurse who worked until the birth of her now 15-month-old child. Her symptoms started post-partum. She developed neck and upper back pain followed by tingling in the right shoulder blade area that would come on, last a few minutes, then go away, triggered by activity, such as walking. The symptoms started in March 2016, then in May, two months later, she underwent Lasik surgery for her vision, which she described as “always blurry.” Though the procedure was declared successful by her ophthalmologist, she began “battling” with her eyes from that time forward. They felt dry, and she continued to have problems with her vision. In October 2016, a sense of muscle exhaustion in her right arm developed, which eventually spread to the face and leg on the same side, then to both sides of the body. She had numbness as if it were below the skin, then she started hurting everywhere. She went to her doctor. Initially, the thought was that Karen had multiple sclerosis or another autoimmune disease.
Her brain MRI was normal, which made MS unlikely, but her blood tests were positive for two antibodies associated with autoimmunity. When she visited with a rheumatologist, he felt like the blood tests were spurious, and there was no disease he could attribute to the results. That doctor suggested consultation with a neurologist. She followed through and the neurologist explored depression and fibromyalgia as possible diagnoses. He suggested treatment with a drug approved for both conditions, but Karen declined the offer, and came to see me instead. How are we to frame this information in our own lives? More than likely, you or someone you know suffers from a condition affecting the brain. We go to the doctor, our point of authority, and tests are run. We hope for an answer, a diagnosis, but too often the treatment fails to meet our expectations for options to return to a state of resilient health.

This book will explore some of the current and emerging evidence that there are tools each of us can use to prevent memory loss and protect the aging brain. Though specific guidance will be provided, the book is an invitation to join me on a journey to explore a new way of thinking about health, medicine, and how the brain works. **WARNING: THE FIRST PART IS PRETTY SCIENCY.** But I encourage you to stick with it. The information I will share is based on functional medicine, a specific approach to healthcare that is gaining ground in the United States and worldwide. Functional medicine, in turn, was born out of the science of systems biology. If you’re confused, don’t worry. All of this will be explained in the pages to come. So, while prescriptive recommendations are offered for the taking, you, the reader, are discouraged from skipping to the end to consume this information right away. Instead, by following the sequence in which the book is written, you will discover treasures in these pages that compel you to examine your innermost self, and to an opportunity to experience a transformation that might change your life — as it did mine — forever.
To unravel these strategies to avoid memory loss and protect your aging brain, it is first necessary to change the way you think about how illness occurs, and how we in western medicine have organized our thinking around disease management. For example, I am a neurologist, which means that I treat diseases that affect the nervous system. The nervous system is defined as the brain, brainstem, spinal cord, nerve roots, peripheral nerves, the interface between nerve and muscle called the neuromuscular junction, and the muscles themselves. Similarly, there are doctors whose specialties focus on the heart (cardiologists), the digestive system (gastroenterologists), the bones (orthopedists), the hormone systems (endocrinologists), and so forth.

These divisions suggest that the body works by organ systems that do not connect to one another and that the diseases, as expressed, occur exclusively within those organ systems, while leaving the rest of the body unaffected or uninvolved. This is not true of the heart, gut, bones, or hormones, and it is certainly not true of the brain. The new paradigm is to think about a holistic system, with each part connected to and influenced by another part, and how each of them is affected by environmental factors that are largely under our control. To further explore this shift, I would like to share with you my personal journey.
Get the complete book and learn more about Dr. Sharlin, Neurology, and Functional Medicine

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