CASE REPORT

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From Infectious Diseases to Lifestyle Medicine: My Personal Journey

How does an infectious disease physician evolve into a passionate advocate and practitioner of lifestyle medicine?

Well, in truth, it was 2 separate life experiences, one personal and one professional (and perhaps a dose of insanity), that led to my metamorphosis. The unconventional decision to leave behind a sound and lucrative career to embark on the unknown requires a bit of irrationality.

Ultimately I would have to say the decision felt destined, because every time I tried to talk myself out of it, life brought me back to reconsider the unorthodox decision.

It is said, in our last moments, we regret not what we did, but what we didn't do.

Part I. My Personal Story

On October 11, 1995, I started an overnight shift at the hospital with a clean slate—that is, no significant medical history—seemingly healthy and like any other 20-something, probably feeling largely invincible. Sometime during that night, I developed sensory loss and pain in both legs, resulting in my own hospitalization. Within hours of that admission came the jolt, a rude awakening as the words *you have multiple sclerosis*

were directed toward me. Clearly, someone had made a mistake. There are doctors, and then there are patients. I was the former, not the latter. This could not be happening. But it had. I now had a new identity. I was now a patient, a patient with a chronic illness.

Once the initial shock and fear cleared, survival instincts kicked in, and rational thought took over. I began to think of my own patients. Who among them were the most successful in their recovery? Of course, those most compliant with care. In similar fashion, I, too, would comply,

drug a week after being discharged from the hospital. My doctor warned of the more common side effects, which included fever, chills, myalgias, nausea, vomiting, diarrhea, anorexia, insomnia, injection site reactions, hair loss, depression, and suicidal thoughts. With the same breath, he offered comfort, stating he knew exactly what to do to reduce or avoid these side effects. He advised that I premedicate with acetaminophen or ibuprofen 30 minutes before the injection. Additionally, and most important, he advised that I

Genes may play a role but *lifestyle matters most.*

and follow the advice of my highly skilled neurologist to the tee. Beyond steroids, I was advised to start a newly approved daily injectable medicine, one with a notable (wicked) side effect profile. I was reminded that although difficult to tolerate, I should carefully weigh out the risk and benefits of the drug, and understand that without it I would likely be in a wheelchair within 20 years. Suddenly, the option to choose felt like no choice at all. I started the

administer the medication just before bedtime; this way I would sleep through the side effects.

I *never* slept through the side effects, I would inject the drug at 10 PM, and at 2 AM I would awaken with violent shaking chills, fever, and so on.

Despite being told things would improve, I would encounter the same set of side effects on a near daily schedule. Over time, this disruption in sleep and barrage of intolerable symptoms led to

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additional prescriptions to temper the side effects. I grew dependent on several medications. Regrettably, although compliant with doctor's orders, the disease progressed and my quality of life suffered immensely over the years that followed.

By 2003, 8 years into the diagnosis, I found myself largely dependent on a crutch or cane, depressed, and losing hope. Then, an unexpected turning point occurred by pure chance; I read an article that discussed a possible connection between diet and multiple sclerosis (MS). At the time, this concept seemed illogical. My initial inclination was to disregard it, but a sense of desperation fueled an interest in exploring this hypothesis. I turned to the scientific literature looking for answers. What I found was nothing short of astounding. There was indeed ample evidence in the literature to support this idea. One of the first articles I came across was published in 1952 in the *New England Journal of Medicine* by Dr Roy Swank.¹

In the article, Swank¹ discussed the incidence of MS in Norway and noted rates were significantly higher in regions where inhabitants consumed increased amounts of saturated fat. He proposed and theorized saturated fat was playing a role in disease pathogenesis. Convinced by his epidemiological observations, he "treated" his own MS patients with a low-fat plant-based diet. He reported on a cohort of approximately 140 patients over 30 plus years, and ultimately concluded those who adhered to the diet showed significantly less disability and lower mortality rates compared to a historical cohort. Of those that survived, 95% remained physically active.^{2,3}

I could not believe what I was reading. Why had not these data come to my attention earlier, and more important, why had not my physician mentioned this to me?

I immediately scheduled an appointment with him to discuss the data and his thoughts on how this might potentially serve me. In anticipation of the meeting, I compiled copies of all the literature I had accumulated supporting the importance of nutrition and lifestyle

in the management of MS. Despite my concerted effort to convince him of the viability of these data, he made it clear that *no diet* could change the clinical course of a complicated neurological disabling disorder, and it was in my best interest to remain on the regimen as prescribed. He added that the disease was a consequence of my genes, and there was nothing I could do about that.

Those parting words sparked an exploration of the genetics literature, and it was there that I learned an interesting fact. In monozygotic twin studies, MS concordance rates were reported as only 14% to 33%.⁴ Based on this, one could conclude that although there are genetic influences, the development of this disorder was dependent on other factors beyond DNA.

In a continued search for answers, I discovered the science of epigenetics. The term, first coined in the 1940s, generally describes modifications (eg, DNA methylation) that play a role in gene expression or phenotype in the absence of DNA sequence changes. In layman's terms, this science reveals that there are variables that can switch genes on or off. Epigenetics acknowledges external factors such as smoking, nutrition, exercise, and stress as important in modifying gene expression.

These revelations, along with the evidence I had collected previously, convinced me I needed to personally adopt changes in my own life in hopes they would enable better management of my disease.

Knowing I would not receive endorsement from my health care team, I made the unconventional decision to discontinue medications and fully immerse myself in optimizing my lifestyle.

I began by adopting a whole food plant-based diet, and engaging in daily physical activity. At the start of my transition, I was so deconditioned that 5 minutes on a stationary bike would lead to both exhaustion and excruciating pain. It was a slow climb, but over an extended period I built stamina and resilience. Over the months that followed, I expanded my attention to

include identifying and addressing streams of stress. I tailored my work load and schedule accordingly to best suit my needs. At home, I created an ideal sleep environment, tending to all aspects of favorable sleep hygiene, a daunting challenge as I had become dependent on hypnotics as prescribed by my physicians in previous years.

I meticulously addressed every aspect of my lifestyle, and I began to witness changes. At first, it was something as simple as I could stay up past *Jeopardy*, and then I noticed there were days I did not need a cane. I lost unwanted weight and began to go days without pain or constant reminders I was an MS patient. Months rolled into years, and I continued to amass strength and confidence that my lifestyle changes could be my salvation.

Three years into this lifestyle transformation, I felt well enough to consider starting to jog lightly. Early on the attempts were futile, but persistence fueled success. Before I knew it, I was running miles, nearly effortlessly, and feeling stronger than ever before. In 2010, I fulfilled a once inconceivable goal and completed a marathon. This solitary event symbolized the successful culmination of my efforts. My personal journey set in motion by an urge to reclaim control of my life had taught me an invaluable lesson; genes may play a role but *lifestyle matters most*.

Part II. My Professional Story

The Centers for Disease Control and Prevention (CDC) produces a list of the top 10 causes of death each year.⁵ It is no surprise to learn the number 1 and 2 causes of death are heart disease and cancer. In fact, they alone account for nearly 50% of all deaths in the United States. Interestingly, this has not always been the case. If one was to look at this same list⁶ from 1900, it would read quite differently. Among the most fatal diseases, infectious diseases topped the list; pneumonia, tuberculosis, and dysentery were the top 3 killers at the start of the 20th century. Notably, this

period predated improved hygienic conditions and water supply, as well as the development of antibiotics and vaccines. It was a different world. Today, we are not dying of infectious diseases primarily, instead we are dying of diseases of excess: too much sugar, too much fat, too much salt, and too much sitting. “Diseases of excess” are heavily represented on the CDC’s list of top 10 causes of death, which include heart disease, cancer, stroke, and diabetes.

Diabetes is especially concerning as we are witnessing rapidly increasing rates over the past couple of decades. While in medical school in the 1990s, I recall rates of approximately 2%. Today, we are brushing past 10%, and the CDC ominously predicts rates will surpass 30% by 2050.⁷ As a practicing infectious disease physician, I was routinely consulted on complicated diabetic cases. A typical consult would involve a diabetic with a nonhealing wound, like a foot ulcer. In many of these cases, workup revealed bone involvement, or what we refer to as osteomyelitis. Osteomyelitis is a difficult infection to treat, requiring extended courses of antibiotics. It is not uncommon for diabetic patients, despite being treated with the appropriate antibiotic course, to respond ineffectively. It may be, in large part, because diabetics have poor vessels, suboptimal immune responses, and, plainly spoken, are poor wound healers. As a detrimental consequence, they are subject to amputations, which then further compromise their ability to live active and productive lives. An amputated diabetic patient will most likely become even more sedentary, gain additional weight, and experience worsening cardiovascular endpoints such as elevated blood pressure and increased resting heart rate. All these adverse effects contribute to an ever-increasing risk of a stroke or myocardial infarction. In practice, this was in fact what I was witnessing. The same patient I had seen a few years earlier for a diabetic foot ulcer was now admitted status poststroke. This time, I was being called to help manage the hospital-acquired pneumonia he had developed. The

scenario that I just ran through is not unique to my experience as a physician. This happens every day in every hospital across our country, and no one bats an eye. It is considered routine; “diabetics develop strokes,” par for the course. It happens.

This leaves me troubled because I know diabetes is largely preventable, and in truth, the scenario I just described should occur on rare occasion. We have the knowledge today to prevent the lion’s share of diabetes. In fact, diabetes cases ought to be unusual. The Potsdam study,⁸ a prospective observational cohort that investigated 4 lifestyle factors (never smoking, healthy diet, physical activity, body mass index <30) in more than 23 000 German citizens, concluded those that adhered to all 4 healthy lifestyle factors reaped the greatest benefits, including a nearly 80% reduction in chronic disease, but specifically, a *93% reduction in risk of developing diabetes*. Maybe even more dramatically, there was an 80% reduction in heart disease, notably the number one cause of death in the United States. This alone possibly can spare the lives of more than 480 000 Americans per year.

Skeptics may question publications such as this, and wonder was this a fluke. Can these data be reproduced? Indeed, it can. In a recent publication in the *American Journal of Cardiology*, yet another large observational cohort in which over 20 000 Swedish men⁹ were followed, similarly looking to understand what benefits were reaped in those who adhered to healthy lifestyle factors. The conclusion was 4 out of 5 of myocardial infarcts were prevented, reinforcing once again the findings of the Potsdam study.

These are just 2 examples of the building body of evidence in the scientific literature supporting the importance of lifestyle choices. The data are indisputable, and reproducible.

Part III. Be the Change

At some point, the 2 experiences of my life, the personal journey as a patient and the professional perspective as a physician, merged and fundamentally

changed me and how I viewed health care. Although proud of my accomplishments in the field of infectious diseases over more than 15 years, in both patient care and clinical research, I felt compelled to redefine my role as a practicing physician. In 2012, fueled by a passion to share what I had learned with peers and the community at large, I made the difficult decision to leave behind the world of infectious diseases, and open one of the first medical practices fully dedicated to lifestyle medicine.

The practice centered on the concepts of behavioral change via education and personal empowerment, with expectations of reducing dependency on pharmaceuticals and improving overall quality of life. There was no blueprint on how best to approach this, so it required the creation of a new health care paradigm and a medium in which to deliver it. In developing the practice, I considered all aspects of the current model and how I could improve on it based on my perspectives as both a physician and, most important, as a patient. What had frustrated me as a patient, and where did I feel the current health care model had let me down?

Immediately, 3 pressing issues arose: first, every doctor’s visit meant at least 30 minutes in a waiting room; second, once I was in with the doctor, he spent no more than 10 minutes with me, and most of the time was spent typing as he spoke; and last, I felt no connection to my providers. Those were 3 issues I would address at the start. My visits would start on time at the top of the hour, run a full 60 minutes and there would be no typing during a patient encounter; instead, I would offer my respectful, uninterrupted attention. That alone was therapeutic, not only for my patient but for me as well as I felt I was practicing medicine in its truest form.

When I opened my doors I had zero patients and zero stream of referrals. Over a short time, patients were scheduled and I had this extraordinary opportunity to practice in a manner that truly evoked healing and allowed

for patients to reclaim their health. The practice grew organically, by word of mouth. An unexpected occurrence that I could have never predicted at the start was that over the past several years I have accumulated more than 20 patients who are also physicians. How did this happen? It was a consequence of having a patient in common. For example, I may have been following a patient who came to see me over obesity but was followed by a local internist. In returning to their doctor for a routine follow-up visit, they presented having achieved a goal, weight loss, reversal of prediabetic state, and so on. That is when I connected with their doctor. It has been a great joy to counsel a physician who has been ill-equipped to practice self-care and to offer them the skill set to regain control of their personal health. This is uniquely powerful and invaluable, as this allows not only for their personal betterment but also cultivates change in how they practice medicine moving forward.

The personal satisfaction of this new practice was rejuvenating and inspirational for me. I wanted to share this healing experience with as many as possible. I began to write articles, give podcasts, and lecture in schools, churches, and hospitals—all in an effort to spread the word about the power of lifestyle medicine. In 2014, I was given a wonderful opportunity by the *Forks over Knives* team to write my story for their website. I was able to share my message with thousands of people across the globe, and in turn, I received so many comments, emails, and calls offering gratitude and interest in wanting to learn more about my practice. Many of those from whom I heard were physicians who

wanted to understand the practice of lifestyle medicine, a term that was new to them. Inevitably, after every interaction with a peer, at the end of the discussion they would turn to me and say, “Why didn’t I learn this in medical school?”

We must redefine how we practice medicine in the 21st century to address the needs of the changing health care landscape. As a profession, let us demand fundamental changes in medical education so as to produce physicians equipped to practice effectively in an era governed by chronic disease. In the end, our salvation will be returning to the basics of health, like eating primarily plants and exercising daily or, in a nutshell, common sense.

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